SELECTED ELEMENTS OF THE ASSESSMENT OF EATING HABITS ON THE EXAMPLE OF 2ND and 3RD CLASSES OF HIGH SCHOOL

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Summary:

Aim

The aim of this paper is the assessment of eating habits of high school students from grades 2 and 3, including eating habits, self-evaluation of diet and the most common nutrition mistakes committed by the members of the studied group.

Materials and methodology

The study involved 333 high school students between the age of 17 and 19. The group consisted of 150 girls and 183 boys. Data was collected using an original survey which consisted of questions dealing with diet and respondent's particulars. The study was anonymous. The results have been subjected to statistical analysis using Pearson's chi-squared test. The statistical differences recognized as significant were those with probability of $p < 0.05$

Results

The majority reaching nearly 40% of respondents declared that they eat 4 meals a day. Over 60% eat breakfast every day. The number of students who declared that they do not eat breakfast at all amounted to 48. Over 55% do not pay attention to their eating habits, whereas 45 students consider them unhealthy. About 60% of respondents declare that they do not drink energy drinks. Within the group of students who consume such drinks the most often declared frequency was 1-2 times a week. The answers, however, vary between the female and the male group (chi-square=82.72121, $p \leq 0,05$); 75% of males do not consume energy drinks, among females the percentage amounts to mere 43%.

Conclusions

The students taking part in the study commit nutrition mistakes which might be a sign of unsufficient level of health education within that field. The nutritional education of the youth should start in primary school and be adapted to the needs and possibilities of the target group. In the face of poor diet, it seems justified to analyze the sources of information on nutrition used by the youth in terms of their credibility.

Keywords: diet, youth, health promotion

Introduction

One of the factors determining man's good health is a proper diet. It is particularly important in the case of children and the youth as they are still growing and their bodies need to be provided with a proper amount of energy and nutrients. Providing them in the right quantities influences the physical and mental development, including the process of learning. To satisfy the nutrient requirements, it is necessary to provide the body with a proper amount of products from different groups (Post-Skagegard 2002).

Due to the technological developments and socio-cultural conditions people lead a sedentary lifestyle and fail to comply with the principles of proper nutrition. The epidemiological data and multiple studies indicate a growing number of children with excess weight or obesity.

Malnutrition and lack of physical activity during childhood or adolescent years might be the cause of future heath problems and increase the risk of civilazation illnesses such as obesity or diabetes mellitus type 2 (Walicka-Cupryś 2010).

The way children and adolscents eat is influenced by many factors. One of the most important ones is home environment, typically combining both positive as well as negative eating habits. The second one is school where children and adolescents often have easy access to the products offered by school shops and which largely consist of quick snacks and sweets - products which do not help with maintaining a reasonable diet (Jeżewska-Zychowicz 2003).

Shaping proper eating habits from an early age is crucial as these habits are usually replicated in adult life.

Therefore, it is important to learn about teenagers' eating habits so that appropriate steps can be taken to introduce positive health behaviour patterns (Szczerbiński, Karczewski 2007).

Aim of the paper

The aim of this paper is the assessment of diet of high school students, grades 2 and 3, including the eating habits, self-evaluation of diet and the most common nutrition mistakes committed by the members of the studied group.

Materials and methodology

The study involved 333 high school students between the ages of 17 and 19. The group consisted of 150 girls and 183 boys.

The tool used in this study was an anonymous, original survey which consisted of general questions about age and sex as well as more specific ones dealing with diet. The questions were closed-ended and dealt with the amount and the type of meals and beverages consumed as well as the length of intervals between meals and the frequency of consuming them. Furthemore, the respondents conducted self-evaluation of their own diet.

The results were subjected to statistical analysis using Pearson's chi-squared test. The statistical differences recognized as significant were those with probability of $p \leq 0.05$. The statistical analysis of the results was conducted using STATISTICA v.10.

Results

The first question dealt with the amount of meals consumed every day. The majority reaching nearly 40% declared that they eat 4 meals a day. The second place was taken by 3 meals. A small percetage of students stated that they eat up to 2 meals a day (Figure 1). The amount of meals consumed varies depending on the respondent's sex. Females more frequently indicated that they eat 3 meal. males – mostly 4 meal. and statistically it is a significant relationship between the sex and the amount of meals consumed every day ($p \leq 0,05$).
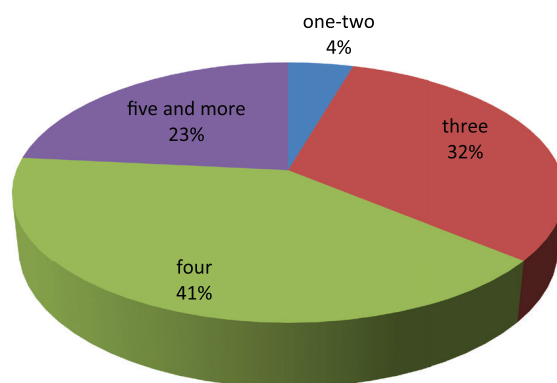

Figure 1. The amount of meals consumed by the respondents

The students were also asked about the length of intervals between meals. The majority of respondents does not pay attention to the length of intervals between meal. however, if they declare a specific number, the interval usually lasts around 3 hours – just over 30% of respondents have chosen this exact answer (Figure 2). Among the students who do not pay attention to the length of intervals between meal. males are predominant. Females most frequently indicated that they eat every 3 hours and statistically it is a significant relationship between sex and maintaining proper intervals between meals ($p \leq 0,05$).
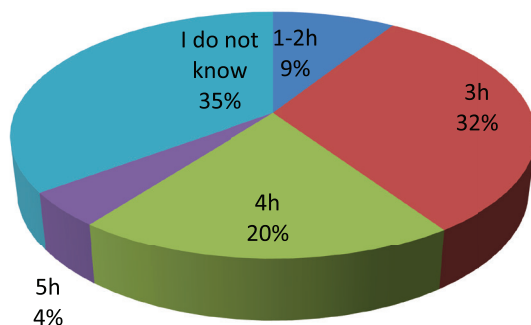
Figure 2. The length of intervals between meals

The respondents were also asked if they eat breakfast every day. Over 60% eat breakfast every day. The number of students who declared that they do not eat breakfast at all amounted to 48 (Figure 3). 94% of females indicated that they always eat breakfast. Among males the percentage amounted to mere 38%. This shows a statistically significant relationship between sex and regularity of eating breakfast (p≤0,05).
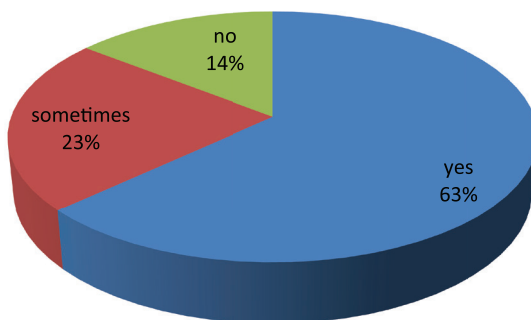

Figure 3. Eating breakfast among the respondents

The answers to the question on the type and the amount of beverages consumed varied considerably. 44% of respondents consume 1 glass of carbonated sweet beverages every day and 46% consume 1 glass of fruit juice. When it comes to the amount of consumed water - the most common answer was 2-3 glasses a day chosen by nearly 30% of respondents. The amount of consumed coffee and tea usually varies between 1 to 3 glasses. The vast majority, for as much as 77% of students, declare that they do not drink alcohol every day.

Over 90% of respondents consume mainly home cooked meals (Figure 4). The answers in this case are differentiated by respondent's sex. Among females, home cooked meals are consumed by 98% of respondents, among males the percentage drops to 86% and the next most frequently checked answer is "bars" (7% of males). In this case, the differences are not statistically significant and there is no relationship between sex and eating home cooked meals (p≥0,05).
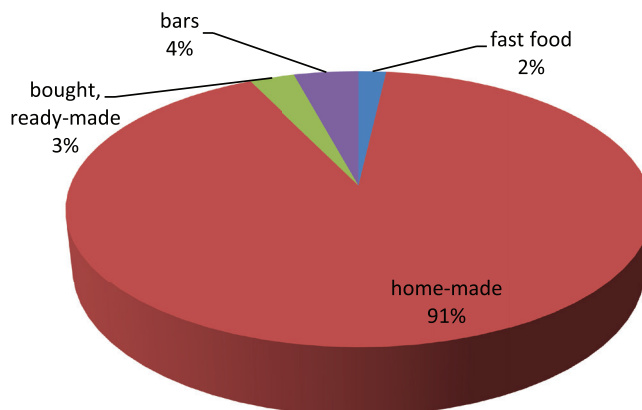

Figure 4. The type of meals consumed

The students were also asked about snacking between meals. The majority admits that they snack between meals. The largest group of females (48%) indicated that they often snack between meals. The most common answer indicated by males was "sometimes" (51%), thus there is a statistical relationship between sex and snacking between meals (p≤0,05).

The next question dealt with the frequency of consuming products from different groups. 36% of respondents declared that they consume milk every day and nearly 49% consume dairy and cereal products. The consumption of animal fats varies between daily and 3-4 times a week. Sweets are consumed 3-4 times a week by nearly 29%. Fruits and vegetables are present in everyday diet of 36% of respondents. 62% of respondents declare that they rarely consume fast foods.

As regards the question about the frequency of consuming energy drinks such as Red Bull, about 60% of respondents declare that they do not consume energy drinks at all. Students who drink such beverages most frequently declared that they consume them once or twice a week (Figure 5). The answers, however, vary between the female and the male grup and these are statistically significant differences - thus, there is a relationship (p≤0,05). Nearly 75% of males do not consume energy drinks, whereas in the case of females, the percentage amounts to mere 43%.
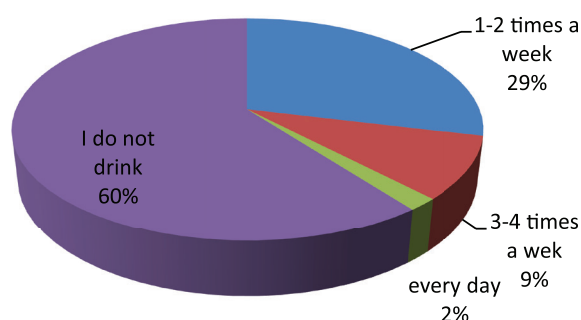

Figure 5. The frequency of consuming energy drinks

In the last question the respondents were evaluating their own eating habits. Over 55% of respondents do not pay attantion to their eating habits, whereas 45 of them consider them unhealthy (Figure 6). There is a statistically significant relationship between respondent's sex and the evaluation of their own eating habits (p≤0,05). More than half of females believe they are eating healthy, while 85% of males indicated that they do not pay attention to this kind of behavior.
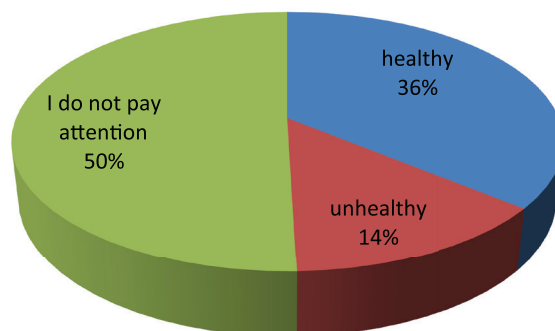

Figure 6. General self-evaluation of respondent's eating habits

Discussion

Many studies conducted on students of primary school, middle school and high school show multiple nutrition mistakes which might have a negative influence on their health in the future.

According to a study conducted by B. Kołłątaj, W. Kołłątaj and Karwat (Kołłątaj et al. 2008) the largerst group of students consume 3 meals a day - nearly 37%, 35% declared that they eat 4 meal. and 19% admitted to having 5 meals a day. Only a little over 5% included 2 meals in their daily diet. A study conducted by Czarniecka-Skubina and Namysław (Czarniecka-Skubina, Namysław 2008) showed similar results. The largest group of students consumed 3-4 meals a day. Another study revealed that more than half of adolescents (54.5%) consumed 4-5 meals a day and about 1/3 of respondents consumed three or less meals a day (Gajda, Jeżewska-Zychowicz 2010). The study presented in this paper had similar results - the amount of meals consumed every day ranged between 3 to 4.

In the abovementioned study (Kołłątaj et al. 2008) 3.5% of respondents declared that they do not eat breakfast at all and in a study on the "Eating patterns of a selected group of students finishing upper-secondary education in Warsaw" [Zachowania żywieniowe wybranej grupy uczniów ostatnich klas szkół ponadgimnazjalnych w Warszawie] 40% of respondents claim that they eat breakfast at home every day, a slightly larger percentage of which were females. Futhermore, the results indicated that the breakfasts consumed were monotonous and consisted moslty of sandwiches (Wojtaś, Kołłajtis-Dołowy 2011). The results of the study presented herein revealed that more than 60% of respodents eat breakfast every day, 18 students declared that they do not eat breakfast at all. Not eating breakfast is a negative trend as it might have a negative influence on the process of learning.

The authors of "Selected elements of high school students' eating patterns" state that the majority reaching 84% of adolescents snack between main meals (Czarniecka-Skubina, Namysław 2008). According to the article "Eating patterns of youth residing in Świętokrzyskie Voivodeship – selected aspects" the majority of students taking part in the study declared that they snack during the day and as regards the frequency of doing so, the most commonly marked answer was "sometimes". It is worth noting that most of these studies point to a larger percentage of males who snack between meals (Gajda, Jeżewska-Zychowicz 2010). In the study presented herein, the majority of respondents claiming to snack describe the frequency of doing so as "sometimes" or "often". Frequent snacking between meals might lead to becoming overweight or obese, particularly if the products consumed are high in calories, e.g. crisps or sweets, which is why snacking is a negative phenomenon.

The abovementioned study revealed that more than 90% of students consumed their meals at home (Gajda, Jeżewska-Zychowicz 2010). The same results have been obtained in the study presented herein which revealed that nearly 91% of respondents consume mostly home cooked meals.

A study titled "Wrong eating habits among teenagers - preliminary study" [Nieprawidłowe nawyki żywieniowe u nastolatków – badania wstępne] indicated that 56.49% of respondents most frequently consume tea and slightly over 14% claimed they drink fruit juice (Czarniecka-Skubina, Namysław 2008). Also, the abovementioned study on the "Eating patterns of a selected group of students finishing upper-secondary education in Warsaw" revealed that water (64.5%) and carbonated beverages (73%) are on the list of 10 products most frequently consumed by students outside the home (Wojtaś, Kołłajtis-Dołowy 2011). The study presented herein revealed that adolescents consume about 1 glass of carbonated beverages and fruit juice a day, and the consumption of water, coffee and tea ranges between 1 to 3 glasses a day.

Studies conducted by Czarniecka-Skubina and Namysław show that only a few students consume fruits and vegetables 4-5 times a day, usually they are only an addition to second breakfast or afternoon snack (Czarniecka-Skubina, Namysław 2008). In a study on "The significance of school education in shaping the nutritional awareness of secondary school students" conducted on students between the ages of 13 and 15 revealed that the higher the level of education of a mother, the bigger the possibility of snacking on fruits by a child. Nearly 44% of students whose mothers have higher education claimed they eat fruits between meals. As regards the students whose mothers have vocational or lower education, the percentage was significantly lower and amounted to about 29% (Łyszkowska 2002). Parents' influence on child's health behaviour when it comes to diet is crucial becase usually it is home where most meals are consumed and family is the first one to shape child's preferences and habits when it comes to diet. Family is one of the influences of social environment (Story et al. 2002). The results of the study presented herein show that the majority of respondents consume fruits and vegetables on daily basis or 3-4 times a week.

In a study on the "Selected elements of high school students' eating patterns" a considerable percentage of respondents (slightly over 42%) believed that they do not maintain a proper diet, 36.7% of students claimed that they maintain a good diet and 21.1% could not determine whether their diet was healthy or unhealthy (Czarniecka-Skubina, Namysław 2008). Among the group of students involved in the study herein, 48% claimed that they do not pay attention to their eating habits and only 14 students firmly stated that they believe their habits to be unhealthy.

In a study published in the Volume of the National Institute of Hygiene in 2006 the assessement of the groups of products consumed by students was conducted. The results were compared with model-based daily food ratios suggested by Turlejska et al. for 19-25 year olds and divided into 9 groups of foodstuff. Among female students, low intake of cereal products was noted - only 7% consumed the recommended amount of cereal products, wheres in the case of male students the percentage amounted to 17.6%. Moreover, low intake of fruits and vegetables was noted – the average ratio among female students amounted to around 69% of recommended intake and among male students to slightly over 82%. About 40% of females consumed less than half of recommended daily intake of fruits and vegetables and 23.5% of males consumed 30-50% of recommended intake of fruits and vegetables. There was also insufficient intake of milk and diary products - 52% of recommended daily intake in the case of females and 76.4% in the case of males. The intake of sugar and sweets reached nearly 90% among females and 99.3% among males (Wyka, Żechałko- Czajkowska 2006). In the study presented herein, the majority of the respondents claimed that they consume cereal products (over 50%) as well as milk and diary products (nearly 40%) on daily basis.

The study conducted by Batyk (2012) from the University of Warmia and Mazury in Olsztyn on a group of 80 randomly selected students between the ages of 13 to 18 showed great popularity of fast foods among young people. According to the study, 56.3% of respondents use those products on daily basis. There was not one person in the studied group who had never consumed them before. In the study presented herein 62% of respondents claimed that they rarely consume products from this group which is a positive phenomenon as they are classified as products of the worst quality.

Conclusions

1. Irregular meals and snacking indicate a poor diet.
2. The students taking part in the study commit nutrition mistakes which might indicate insufficient level of health education within that field.
3. In the face of poor diet, it seems justified to analyze the sources of information on nutrition used by youth in terms of their credibility.
4. The nutritional education of youth should start in primary school and be adapted to the needs and possibilities of the target group.

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