Nutrition and body mass assessment of extramural students from the Medical Academy and the Academy of Physical Education and Sport in Gdańsk

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Nutrition is one of the health behaviors that in a significant way influence our health. The purpose of the work was to assess the nutrition and body mass of extramural students. 119 extramural women students aged 23–46 participated in the investigation. Anonymous questionnaires which included questions about the respondents' nutrition, self-estimation of quality and quantity of food were to fill by the respondents. Their fatty tissue was measured by reference to the BMI index calculated with a Tanita apparatus.

Extramural women students not only eat irregularly but do not follow the dieticians' advice as for the number of meals eaten daily, either. The analysis of frequency of eating basic products revealed both positive and negative health behaviours. To the positive one belong drinking milk every day and eating diary products, eating fresh fruit and vegetables or drinking vegetable / fruit juices. However, the negative health behaviour includes rare eating grain products, *e.g.*, groats, eating sweets frequently and drinking coffee. Self-estimation of body mass in the majority of women students agreed with the BMI index and divergences might be the result of a nowadays popular slim figure.

Key words: nutrition, self-estimation of body mass, obesity, underweight, BMI

INTRODUCTION

Nutrition is one of the health behaviors that in a significant way influences our health. An appropriate diet provides for a correct functioning of the organism, as it supplies basic nutritives, energetic, building and regulating components. Irregular meals, inadequate quality and quantity of food may lead to many diseases, obesity included. Overweight is a systemic disease characterized by an increased fat body mass. Particularly, vascular obesity is one of the factors that causes arterial hypertension, atherosclerosis, cardiac infarction or type II diabetes. Besides, obesity negatively affects self-estimation of one's own appearance and general feeling (1, 2). It is alarming that the occurrence of obesity around the world and in Poland increases (4). One of the reasons for such a phenomenon is the lack of physical activity and the increasing consumption of high-energetic meals.

The purpose of the present work was the assessment of nutrition and body mass of extramural women students.

MATERIALS AND METHODS

119 extramural women students (65 nurses from the Department of Nursing at the Medical Academy and 54 teachers of postgraduate studies at the Academy of Physical Education and Sport in Gdansk), aged 23–46, participated in the investigation. Anonymous questionnaires which included questions about the respondents' nutrition, self-estimation of quality and quantity of food were filled by the respondents. Their fatty tissue was measured by reference to the BMI index calculated with a Tanita apparatus.

RESULTS

The subjects do not eat regularly (Fig. 1) and do not follow the dieticians' advice as the investigations on the number of meals eaten daily revealed (Fig. 2). Only 13.8% of the nurses and 20.4% of the teachers eat five times daily, whereas three basic meals (breakfast, dinner and supper) eat 32.3% of the nurses and 20.3% of the teachers. Moreover, 15.4% of the nurses and 21.1% of the teachers resign breakfasts and 21.5% of the nurses and 14.8% of the teachers do not eat suppers. The majority of the subjects think dinner to be their main meal.

An analysis of the frequency of eating meals is presented in Table 1. The extramural students prefer to eat white breadstuffs. As for grain products, they seldom eat groats. Very favourable is the fact that their
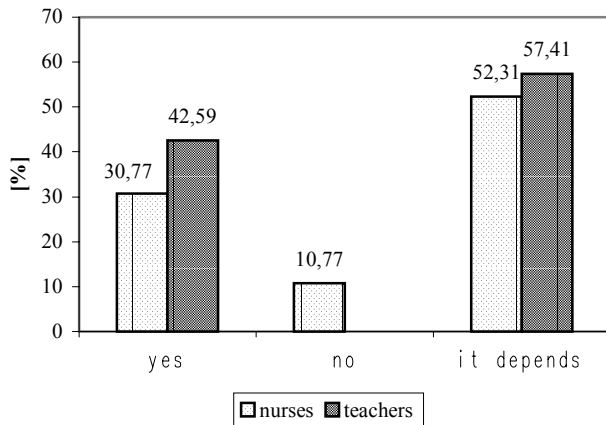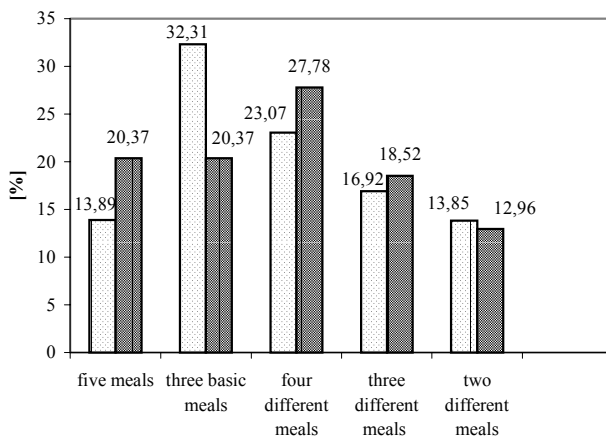
Fig. 1. Regularity of eating
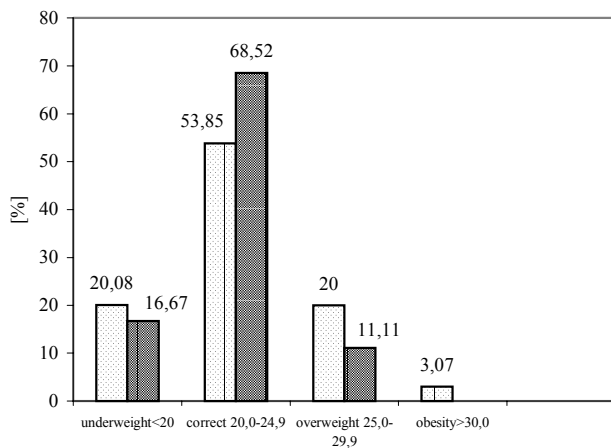

Fig. 2. Number of meals per day

Fig 3. Evaluation of body mass by BMI

Fig. 4. Self-estimation of body mass

Fig. 5. Self-estimation of figure

Fig. 6. Estimation of one's own appearance

daily diet includes milk and diary products, which are of a high nutritious value. Meat and its products, being of a high nutritious level, too, are a basic source of proteins. The respondents do not eat beef and veal, however, they quite often eat fish and poultry during a week and, somewhat less, supplement the deficit of proteins by eating pulse products. As for animal fat, the high percentage of the subjects do not eat cream at all. However, they often eat butter, and lard or pork fat is eaten sporadically. Potatoes as a basic carbohydrate product plays an important role in the students' diet. A
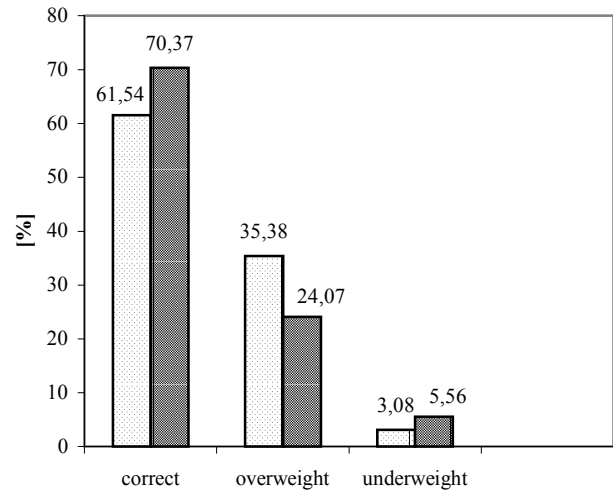
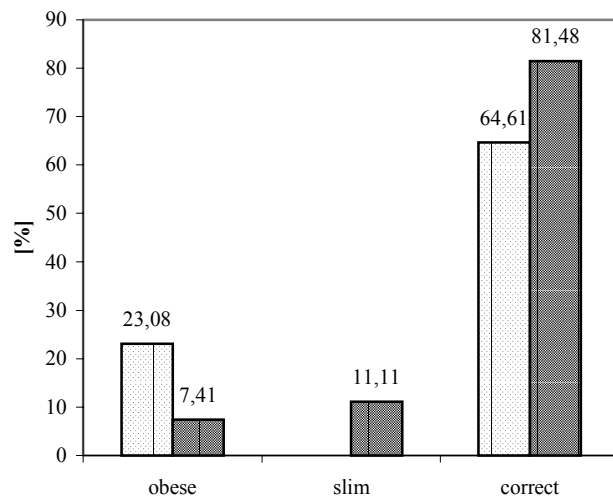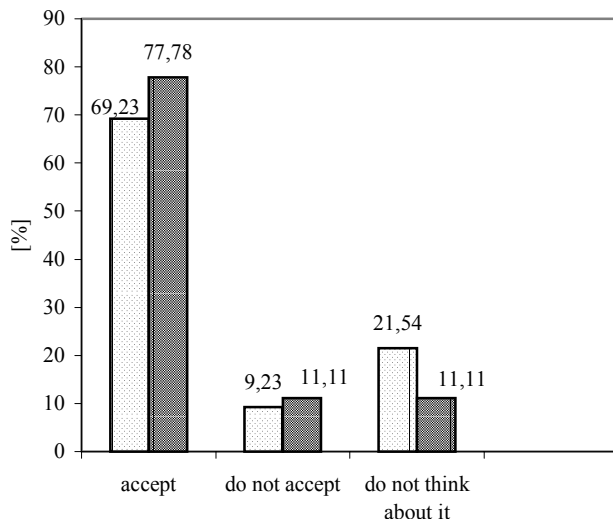high consumption of fresh fruit, vegetables and fruit preserves or fruit and vegetable juices shows the proper eating habits. These products are the main sources of vitamins, mineral components and dietary fibre. However, a negative phenomenon is drinking too much

Table. **Frequency of eating basic products (%). 1 – 1–3 times daily, 2 – 4–6 times daily, 3 – 1–3 times a week, 4 – hardly ever.**

Type of product	Frequency of eating							
	Nurses				Teachers			
	1	2	3	4	1	2	3	4
White bread–stuffs	61.54	1.54	15.38	15.38	62.96	5.55	20.37	3.7
Brown bread–stuffs	41.54	6.15	33.85	13.85	33.33	3.7	42.59	16.67
Macaroni	9.23	3.07	63.07	16.92	3.7	1.85	77.78	12.96
Groats	3.07	4.61	46.15	35.38	3.7	1.85	51.85	37.04
Full-cream milk	18.46	9.23	30.77	30.77	22.22	7.41	29.63	25.93
Skim milk	9.23	9.23	24.61	30.77	16.67	–	20.37	31.48
Diary products	35.38	10.77	40.0	3.07	53.7	5.55	29.63	1.85
Cheese	24.61	9.23	58.46	1.54	38.89	7.41	44.44	5.55
Cream	1.54	1.54	41.54	40.0	3.7	–	57.41	12.22
butter	47.69	4.61	18.46	21.54	59.26	7.41	9.26	25.93
Lard, pork fat	4.61	–	3.07	80.0	1.85	–	7.41	68.52
Vegetable grease	32.31	4.61	46.15	10.77	33.33	3.7	48.15	7.41
Eggs	9.23	3.07	80.0	4.61	1.85	3.7	83.33	5.55
Pork	3.07	3.07	69.23	12.31	3.7	1.85	70.37	12.96
Beef	–	3.07	33.85	49.23	1.85	–	35.18	40.74
Veal	–	1.54	27.69	47.69	–	–	22.22	51.85
Poultry	7.69	4.61	80.0	4.61	3.7	1.85	87.04	3.7
Fish	3.07	4.61	72.31	12.31	–	–	81.48	9.26
Potatoes	12.31	6.15	69.23	12.31	20.37	3.7	62.96	3.7
Fresh vegetables	24.61	4.61	63.07	1.54	42.59	5.55	42.59	5.55
Boiled vegetables	12.31	9.23	60.0	4.61	33.33	3.7	55.56	–
Fresh fruit	46.15	15.38	36.92	–	74.07	11.11	12.96	–
Fruit preserves	15.38	6.15	60.0	4.61	42.59	3.7	35.18	5.55
Fruit/vegetable juices	36.92	6.15	49.23	7.69	42.59	7.41	37.04	1.85
Pulse crops	6.15	1.54	50.77	29.23	3.7	–	53.7	33.33
Sugar, sweets	33.85	3.07	41.54	13.85	46.29	3.7	35.18	12.96
Coffee	75.38	10.77	3.07	7.69	62.96	5.55	11.11	14.81

coffee and an excessive consumption of sugar and sweets.

The majority of the subjects have a proper body mass (Fig. 3). 23.1% of the students are underweight and their BMI is lover than 20.0. Whereas overweight was observed in 20% of the nurses and 11.1% of the teachers. Only in 3.1% of the nurses the BMI showed obesity. Self-estimation of body mass in the majority of women students agreed with the BMI index (Fig. 4). However, a great percentage of the respondents are critical about their body mass. Thus, there were divergences in the self-estimation and objective evaluation of body mass. Nevertheless, most of the students estimate their figure as proper and accept their appearance (Figs. 5 and 6).

DISCUSSION

Nutrition is one of the elements that influence our health through deficit or excess of particular nutritious components and energy. The diet of Polish people in many cases strays from the recommended standards. It is characterized by an insufficient number and incorrect time of eating meals during a day. Only 10% of adults eat twice a day and over 55% only have three meals daily. Thus, the breaks between meals are long and can lead to undue accumulation of energy supplied in the afternoon and thus to obesity (3).

According to Soko³owska et al. (7), nurses from Bia³a Podlaska are aware of a healthy life style but do not follow it, eat irregularly. 50% of the respondents think that regular meals are hindered by shift-work, lack of time (29.2%), low remuneration (12.3%), lack of appetite (6.2%) and lack of willingness to eat regularly (2.3%). In comparison with the nurses from Gdańsk, their results were better as for the number of meals eaten per day. Over 51% ate three and 17.2% five meals daily.

Irregularity of eating habits and of the number of meals were also presented in the works of Miźsowicz and Palus (5). 10% of extramural women students from the Academy of Special Education in Warsaw eat five meals daily and about 30.8% of teachers have three regular meals.

Analysis of the frequency of eating basic products revealed both positive and negative health behaviours

regarding different types of products. The obtained results are similar to the results of other authors (5, 6). The majority of the subjects eat white breadstuffs. Macaroni or groats are seldom eaten by the students. They often drink milk and eat diary products. According to the frequency of eating the products that are the main sources of proteins (beef, pork, poultry and fish), many respondents point out a lot of incorrectness. The students often eat butter, but sporadically lard and pork fat. Very important in their diet are potatoes. A favourable eating habit is a daily consumption of fresh vegetables and fruit, drinking fruit and vegetable juices, whereas a negative factor is a frequent eating of sweets and sugar. The nurses from Biała Podlaska would like to restrict the consumption of meat and sweets, and also eliminate coffee and strong tea. 50% of the respondents agreed that the present eating habits influenced their health in a negative way.

The evaluation of one's own appearance and body mass is particularly important, because the way the students see themselves affects their general feeling, activity and health behaviour. The authors of (5–7) claim that self-estimation of body mass in the majority of women students agrees with the BMI index and the divergences might result from the nowadays popular slim figure; *e.g.*, the results of Mięsowicz and Palus (5, 6) revealed that twice as high percentage of the respondents think they are obese, whereas the BMI index shows the proper body mass. These results are similar to mine. It is distressing, though that 30% of the teachers in the Mięsowicz and Palus study (5) do not accept their appearance.

References

1. Bray GA. Effects of obesity on health and happiness. In: Brownell KD, Foreyt JP, eds. Handbook of Eating Disorders. New York: Basic Books 1986: 3–44.
2. Kaplan RM. Sallis JF. Patterson Jr T, Health and Human Behavior. Psychology series. McGraw-Hill International Edition 1993.
3. Karski J. Promocja zdrowia, Warszawa: Wyd. Ignis. 1999: 102–4.
4. Kozieł S, Kołodziej H, Lipowicz A, Boznański A. Otłuszczenie, a ryzyko chorób sercowo-naczyniowych u czternastoletniej młodzieży. Monografie Zakładu Antropoplogii PAN Wrocław 2000; 19: 5–54.
5. Mięsowicz I, Palus D. Postrzeganie własnego zdrowia i wyglądu przez studentów Akademii Pedagogiki Specjalnej w Warszawie. In: Malinowski A, ed. Ontogeneza i promocja zdrowia. Zielona Góra 2002: 195–8.
6. Mięsowicz I, Palus D. Zachowania prozdrowotne studentów Akademii Pedagogiki Specjalnej. In: Malinowski A, ed. Ontogeneza i promocja zdrowia. Zielona Góra 2002: 213–5.
7. Sokołowska B, Samoszuk T, Piaszczyk D. Nurses, diet and style of living as one of the determinants of the programme of health promotion. Annales Universitatis Marie Curie-Skłodowska. Lublin–Polonia 2003; vol. LVIII, suppl. XIII, 231, section D: 152–6.