PHYSICAL ACTIVITY AND EATING HABITS AMONG FEMALE STUDENTS FROM UKRAINE

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Summary: Physical activity and eating habits are very important determinants of health. The aim of the study is to demonstrate relationship between the level of activity and eating habits of students. The study involved 1,291 female students with an average age of 19.5, from 12 fields of study of the National University in Lutsk, Ukraine. In order to assess the activity levels the authors applied long version of the International Physical Activity Questionnaire (IPAQ), and eating habits were surveyed via a questionnaire prepared at the Institute of Agricultural Medicine in Lublin. With regards to behaviors related to eating habits a significantly higher activity was observed in people suffering from fear of food. In the case of behaviors related to care for the appearance and the figure, a higher physical activity was shown among students performing exercises to reduce and to gain weight. Very insignificant use of the test participants of unhealthy means indicates appropriate health-promoting attitudes of the female students.

Keywords: female students from Ukraine, physical activity (IPAQ), eating habits

Introduction

In many scientific studies undertaken for the sake of human health the role of physical activity is often emphasized (Blair, Brodney 1999, Blair et al. 2001, Andersen et al. 2006) as well as eating habits (Romanowska -Tołłoczko 2011, Myszkowska-Ryciak i in. 2011, Rębacz-Maron i in. 2013, Szczodrowska, Krysiak 2013, Krejpcio i in. 2013).

Assessment of physical activity conducted through the International Physical Activity Questionnaire in different countries (Ekelund et al. 2006, Crinière et al. 2009, Bergier B. et al. 2012, Bergier J. et al. 2012) allowed for an objective demonstration of the fact that it tends to be lower among women (Frömel et al., 1999, Suchomel et al., 2008, Mynarski et al., 2014). These results were also confirmed by gender-based studies among university students (Mynarski et al. 2009, Biernat 2011, Soğuksu 2011).

The fact that nutrition habits of female and male students varies seems undisputable. Against the background of these studies on other physical activities and eating habits of women and men a question arises on whether there is a relationship between the level of physical activity and eating habits within the group of female students.

Research methodology

Aim of the study - The aim of the research is to demonstrate the relationship between the level of physical activity among the female students from Ukraine and their behaviors related to eating habits.

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Tables: 7 Figures: 7 References: 18 Full-text PDF www.hpc.edu.pl

Research materials and methods

The study was conducted in 2013 among 1,291 female students at the age of 19.5 ± 1.3, from 12 faculties of the National University in Lutsk, Ukraine.

In order to assess physical activity levels a long version of the International Physical Activity Questionnaire (IPAQ) was applied, and diet related habits were assessed via questionnaire prepared by the Institute of Medicine in Lublin.

Research results

The search for links between physical activity and eating habits of female students concern their behaviors related to eating habits for the sake of their body fitness.

Physical activity and behaviors related to nutrition

When analyzing physical activity and eating behaviors of female students the following was considered: fear of gaining weight, avoiding food and irregular eating habits.

Physical activity and fear of gaining weight

The female students, who feel fear of gaining weight have a significantly increased total level of physical activity (3,687.5 MET) than a group of their colleagues who do not have such feelings (3,273.0 MET). A similar, statistically significant difference was demonstrated in the area of physical activity in terms of movement, respectively 689.0 and 598.4 MET. Higher physical activity among female students who feel the fear of food (however not statistically significant), has also been shown in other areas of activity (Fig. 1, Tab. 1).

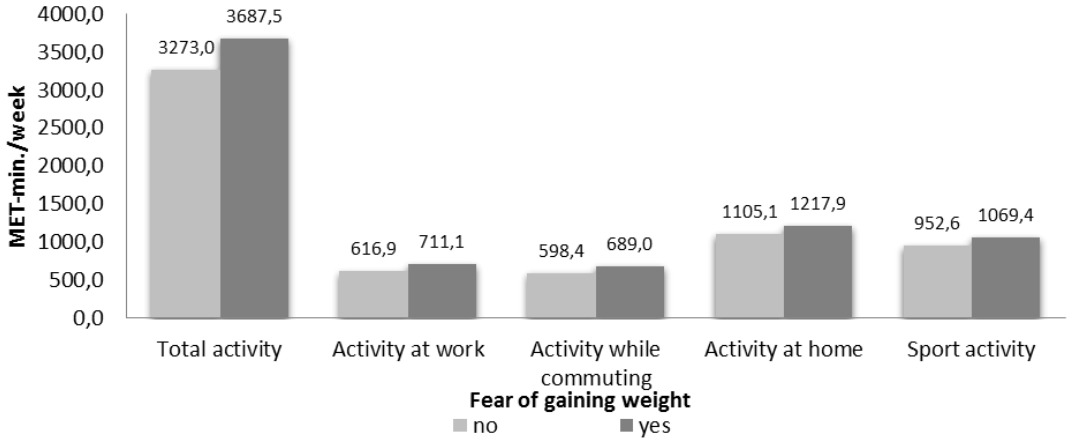

Figure 1. Areas of physical activity of students taking into consideration experienced fear of gaining weight

Table 1. Diversification of areas of physical activity among students taking into account the experienced fear of gaining weight

U Mann-Whitney Test				
Area of activity	Sum of ranks		Z	p
	No	Yes		
Total activity	636733.50	197252.50	-2.13	0.0334*
Activity at work	641665.00	192321.00	-1.25	0.2103
Activity while commuting	635981.50	198004.50	-2.27	0.0235*
Activity at home	642254.00	191732.00	-1.14	0.2557
Sport activity	642735.00	191251.00	-1.05	0.2936

*-significant diversification at p<0,05

Physical activity and avoiding eating

Avoiding eating does not differentiate significantly the tested female students who do that and who do not avoid eating both in relation to the total level of physical activity as well as its four areas (Fig. 2, Tab. 2).

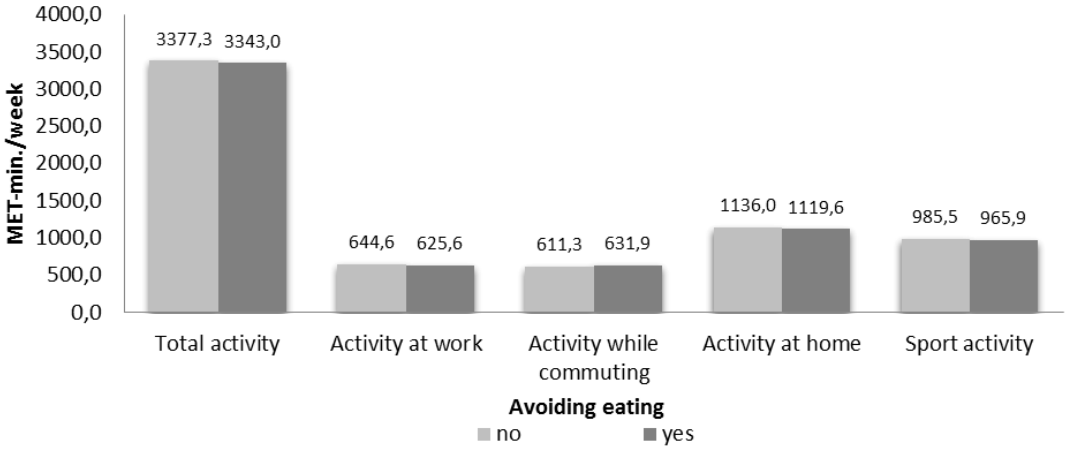

Figure 2. Areas of physical activity of students taking into account avoiding eating.

Table 2. Diversification of areas of physical activity among students taking into account avoiding eating

U Mann-Whitney Test				
Area of activity	Sum of ranks		Z	p
	No	Yes		
Total activity	295526.50	538459.50	-0.05	0.9575
Activity at work	293784.00	540202.00	-0.33	0.7430
Activity while commuting	301347.00	532639.00	0.86	0.3920
Activity at home	298449.50	535536.50	0.40	0.6871
Sport activity	295204.00	538782.00	-0.10	0.9175

Physical activity and irregular eating

Irregular eating, ie. overeating at times and not eating enough at other times, does not differentiate significantly the total activity and its areas in comparison to the peers who do not apply such practices (Fig. 3, Tab. 3).

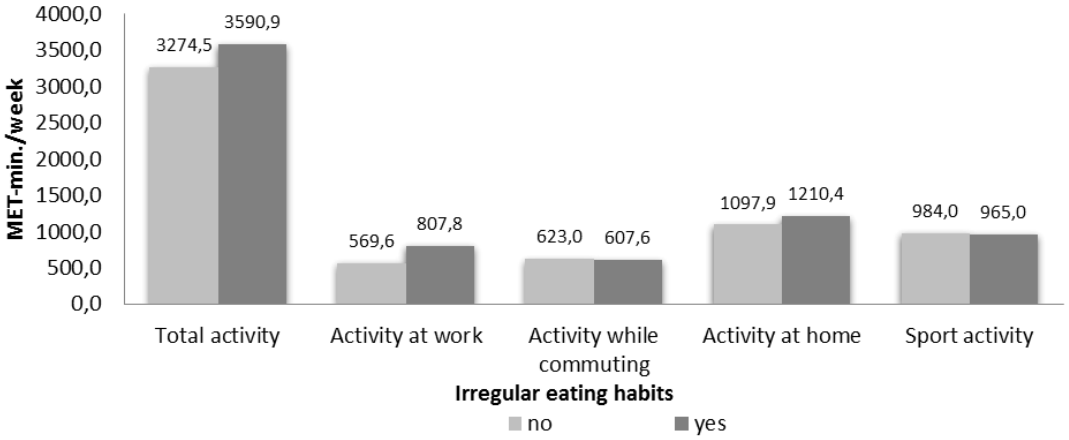

Figure 3. Areas of physical activity of students taking into account irregular eating habits

Table 3. Diversification of areas of physical activity among students taking into account irregular eating habits

U Mann-Whitney Test				
Area of activity	Sum of ranks		Z	p
	No	Yes		
Total activity	583557.50	250428.50	-1.88	0.0596
Activity at work	586213.50	247772.50	-1.46	0.1451
Activity while commuting	587922.00	246064.00	-1.16	0.2443
Activity at home	584019.50	249966.50	-1.81	0.0707
Sport activity	594589.50	239396.50	-0.06	0.9504

Physical activity and behaviors related to work to keep fit

In order to analyze the behaviors associated with keeping fit the following was considered: exercises to increase and reduce weight, taking weight-loss drugs and drugs that increase body weight, laxatives, diuretics and anabolic steroids (Tab. 4). Their analysis indicated the biggest share of exercises targeted at reducing weight and less exercises to increase body weight.

Table 4. Diversification of areas of physical activity among students taking into account performing physical exercises in order to lose weight

U Mann-Whitney Test				
Area of activity	Sum of ranks		Z	p
	No	Yes		
Total activity	613434.50	220551.50	3.05	0.0023*
Activity at work	613986.50	219999.50	3.17	0.0015*
Activity while commuting	602881.00	231105.00	1.31	0.1908
Activity at home	604194.00	229792.00	1.52	0.1276
Sport activity	613156.00	220830.00	3.00	0.0027*

*- significant diversification at $p<0,05$

Because of the low values of consuming a variety of measures to improve one's figure (which is a positive phenomenon), it takes into account only the consumption of slimming medicines and diuretics, which were applied more frequently.

Physical activity and exercises in order to reduce weight

The female students who use exercise to reduce body weight have significantly higher level of total physical activity (3,482.0 MET) than their colleagues who do not apply such exercises (3,074.4 MET). Similar pattern was found in the area of work and sport related activity and participation in sport (Fig. 4, Tab. 4).

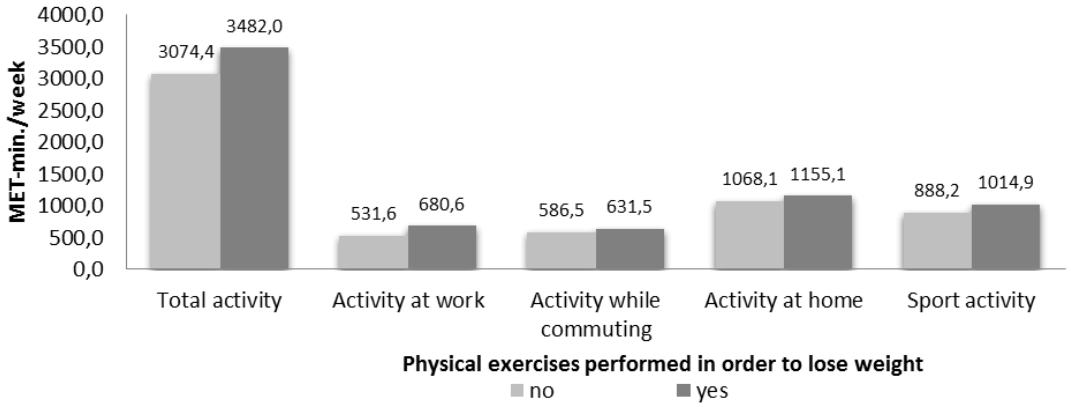

Figure 4. Areas of physical activity of students taking into account taking physical exercises in order to lose weight

Physical activity and exercises for weight gain

Also, female students who use exercise to increase body weight have a significantly higher overall physical activity level (3,671.6 MET). Significantly higher physical activity has also been found in the area of activities related to the participation in sport (Fig. 5, Tab. 5). This may indicate that women, just like men, for the sake of their appearance often reach for the strength training.

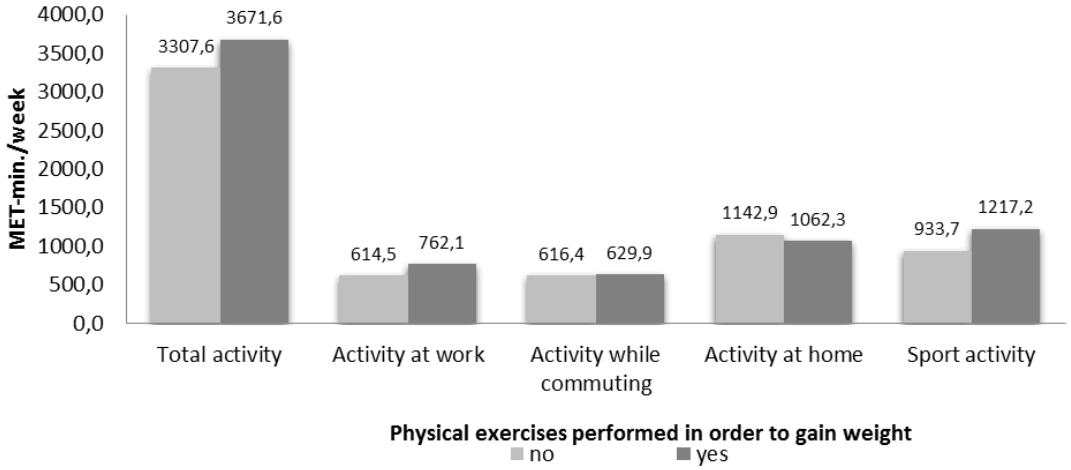

Figure 5. Areas of physical activity of students taking into account taking physical exercises in order to gain weight

Table 5. Diversification of areas of physical activity among students taking into account performing physical exercises in order to gain weight

U Mann-Whitney Test				
Area of activity	Sum of ranks		Z	p
	No	Yes		
Total activity	691672.00	142314.00	-2.16	0.0311*
Activity at work	695164.00	138822.00	-1.45	0.1463
Activity while commuting	694722.50	139263.50	-1.53	0.1254
Activity at home	705427.50	128558.50	0.66	0.5091
Sport activity	686789.50	147196.50	-3.16	0.0016*

*- significant diversification at p<0,05

Physical activity and taking weight-loss drugs

Although the phenomenon of the consumption of weight loss drugs is relatively rare and affects only 2.6% of female students it has been considered appropriate to recognize their relationship with physical activity. It has been shown that female students benefiting from such practices have significantly increased total physical activity (4,224.2 MET) than their colleagues who do not apply such practices (3,342.6 MET). Such a significant difference was also demonstrated in the area of activity at work / school (Fig. 6, Tab. 6).

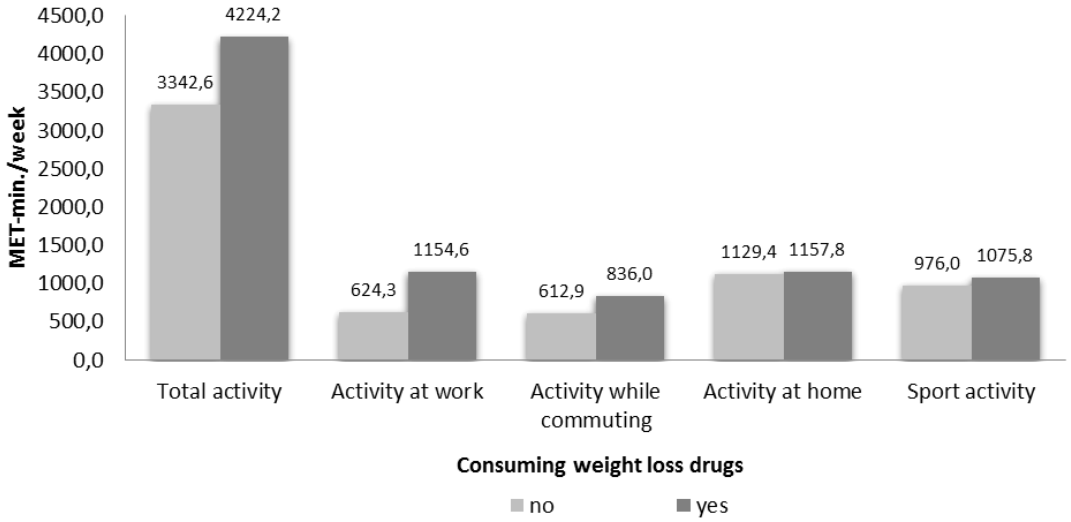

Figure 6. Areas of physical activity of students taking into account taking weight loss drugs

Table 6. Diversification of areas of physical activity among students taking into account consuming weight loss drugs

U Mann-Whitney Test				
Area of activity	Sum of ranks		Z	p
	No	Yes		
Total activity	807510.00	26476.00	-2.44	0.0147*
Activity at work	807172.00	26814.00	-2.62	0.0088*
Activity while commuting	809858.50	24127.50	-1.33	0.1834
Activity at home	809642.50	24343.50	-1.43	0.1524
Sport activity	810876.50	23109.50	-0.85	0.3967

*- significant diversification at p<0,05

Physical activity and intake of diuretics

The students using diuretics are characterized by a higher level of total physical activity, but these differences are not significant. Such differences were also not shown in any of the four areas of physical activity (Fig. 7, Tab. 7)

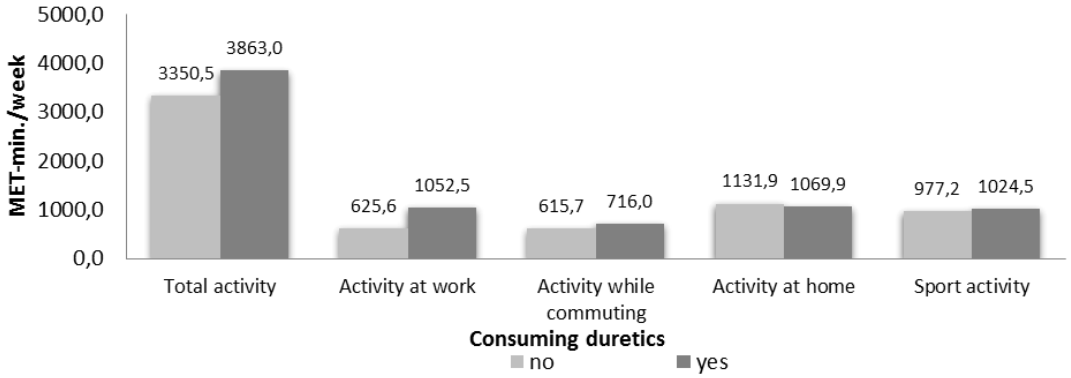

Figure 7. Areas of physical activity of students taking into account taking duretics

Table 7. Diversification of areas of physical activity among students taking into account consuming duretics

U Mann-Whitney Test				
Area of activity	Sum of ranks		Z	p
	No	Yes		
Total activity	805920.0	28066.00	-1.86	0.0625
Activity at work	805999.0	27987.00	-1.84	0.0653
Activity while commuting	809144.5	24841.50	-0.42	0.6740
Activity at home	809673.0	24313.00	-0.18	0.8543
Sport activity	810392.0	23594.00	0.14	0.8905

*- significant diversification at p<0,05

Summation

Physical activity and eating habits are the essential components of a healthy lifestyle.

The search for correlation between these factors showed no major relations between them.

Among the behaviors related to nutrition, such as fear of gaining weight, avoiding eating and irregular eating, the link to greater physical activity occurred only in case of fear of gaining weight. This result may indicate that there is a group of female students, who in fear of gaining weight spend more time on physical activity, which is a good example of pro-health attitudes.

Other factors such as avoiding eating and irregular eating, have not proved to be more significantly motivating physical activity.

In case of the analyzed behaviors associated with care for the look in the context of an increased physical activity, such relationship was found in relation to the exercise in order to increase and reduce weight, which also should be evaluated as an example of appropriate pro-health attitude.

An even more favorable attitude in the health-related area of female students is indicated by only a very minor use of medicines for weight loss, weight gain, laxatives, diuretics and anabolic steroids.

Studies using IPAQ questionnaire among students in Croatia (Pedisic et al. 2014) showed that non-smokers and persons with higher self-esteem are characterized by an increased physical activity.

Conclusions

1. Significantly higher scores of physical activity and good eating habits were obtained by female students who experience fear of food. There were no interdependencies in the case of avoid eating and irregular eating.
2. Behaviors targeted at maintaining good physical appearance such as exercises to increase and decrease body weight are associated with more physical activity.
   There were no such interdependencies noted in relation to consumption of a variety of medical resources for the sake of the appearance.
3. Trace use by women of such measures as: weight loss drugs that increase body weight, laxatives, diuretics, and anabolic steroids testifies to the exemplary pro-health attitudes.
4. Behaviors related to nutrition and care for the appearance of figure also indicate the positive pattern of pro-health attitudes.

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