Determination of socio-culturel characteristics on somatic parameter body mass index in Czech adult population

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ABSTRACT

Sedlacek J, Sebera M, Michalek J, Cacek J. Determination of socio-culturel characteristics on somatic parameter body mass index in Czech adult population. *J. Hum. Sport Exerc.* Vol. 8, No. Proc2, pp. S30-S35, 2013. In this contribution are presented results of testing 569 Czech adult people (273 males and 296 females) older than 18 years. There are discussed results in BMI, which was measured by machine Inbody 720. By questionnaire were learned parameters of sport practicing, magnitude of settlement, life status and education level. Presented results show negative trends. BMI parameter increases when the age arises: most of male groups and two oldest female groups are of overweight. Majority of adult Czech population does not practice any sport activity (71%). This of course influences BMI parameter, when those individuals, who do not practice sport mainly among male groups have again overweight and obesity. Magnitude of settlement also slightly determine watched parameter: in male groups is BMI level decreased with greatness magnitude of settlement, while in female groups can be seen opposite trends. Those who are single or possess good education level have better results in watched BMI parameter. **Key words**: BMI, CZECH ADULT POPULATION, SOCIO-CULTURAL CHARACTERISTICS.

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INTRODUCTION

Nowadays the movement activities play more and more important role in the life of human being. The purpose of any recreational movement activity is the health increase and prolonging of active life. To keep needed level of health and movement performance all the life is a very difficult task. It needs systematic effort, self-discipline, endurance and strong willing (Sedlacek et al., 2007). Movement activity as a mean of keeping the demanded level of physical fitness can be cannot be substituted with anything else. There is shown that lack of movement activity leads to lowering of physical fitness this is parallel manifested by negative trends in somatic parameters.

Socio-demographic analyses show in Europe and also in Czech Republic that quantity and also the quality (intensity) of sport activity among adult population are insufficient as a whole. Most Europeans state that the main reason for absence of sports activities is lack of time. One third of European Union citizens (34%) never play sport due to a lack of time. The second reason for not been involved in is a fact of not liking sport (25%). However, neither the fee (4%) nor the lack of suitable facilities (3%) seems to be significant reasons for the lack of sports activity. It was shown (Eurobarometer, 2004) that adult men exercise more than women. In 2004 41% of men claimed that they play sport at least once a week, but women stated only 35%. Regarding age the situation shows that frequency decreases as the age category rises; from 60% in age 15 – 24 it falls to 28% in age over 55 years. The practice of sports is directly linked to the level of education; the more years a man was attending school, the more time is devoting the sport and movement activities.

In adult Czech Republic population is prevailing overweight and obesity (Kunesová, 2006). Near 52% of adult Czech population have BMI over normal value. From it is 35% overweight and 17% is in the category obesity. Difference from last researches (6 years) is plus 3% more with overweight. To this great population overweight contribute more often men and older people. In the adult population is near 60% men with overweight, but only 46% of women. An analyze shows that overweight in childhood influence occurrence of overweight in adult age. It is also clear that occurrence of overweight is firmly connected with overweight in the family. Child overweight is significantly more probable if parents are also overweight. In general the time devoted by population to physical activity has been shortened. Comparison with former researches show decrease mainly in walking (2 hours 30 minutes less per week), in more challenging movement activities (loss from 4 on 3 hours per week) – recommended quantity is minimally 3 hours 30 minutes per week; this fulfill only one third of Czech adult population. People with overweight spend significantly more period of time with watching TV and with housework, but significantly less time is devoted to sport and movement activities, occupation, school and self-study.

In this contribution we want to reveal determination of body mass index by socio-cultural characteristics in Czech adult population.

MATERIAL AND METHODS

In this article are presented results of testing 569 Czech adult people (273 males - M and 296 females - F) older than 18 years. In this contribution is included and discussed results in 1 somatic parameter: body mass index (BMI), which was measured by machine Inbody 720. We were working with fundamental statistical data, like means (x), median, minimum and maximum, standard deviation (s) of the whole group of male and female, too (Table 1). Movement activity of Czech adult population we learned by questionnaire. There were 19 various questions. In this contribution we watch influence of the whole group answers on questions about magnitude of settlement (less than 999, 1000 – 29999, 30000 – 99999, 10000

and more), life status (single - married – divorced – widowed - registered partnership) and education level (none education - fundamental - trainee - GCE exam - university) on somatic parameters. All situations are shown by graphs and described. Differences of groups were evaluated on 5% statistical significance level.

Table 1. Fundamental statistical data.

Males	n	BMI x	s	Females	n	BMI x	s
M1: 18-28	111	24.1	3.0	F1: 18-28	86	22.3	3.1
M2: 28-38	65	25.6	3.9	F2: 28-38	67	23.8	4.0
M3: 38-48	43	26.9	2.6	F3: 38-48	36	24.1	2.9
M4: 48-58	20	26.2	3.0	F4: 48-58	23	24.9	3.9
M5: 58-68	19	28.0	4.5	F5: 58-68	54	26.9	4.3
M6: > 68	15	28.2	3.5	F6: > 68	30	27.1	4.1
M1 – M6	273	26.5	4.7	F1 – F6	296	25.0	3.7

RESULTS

Table 2. Answers on question "do you practice regularly sport"?

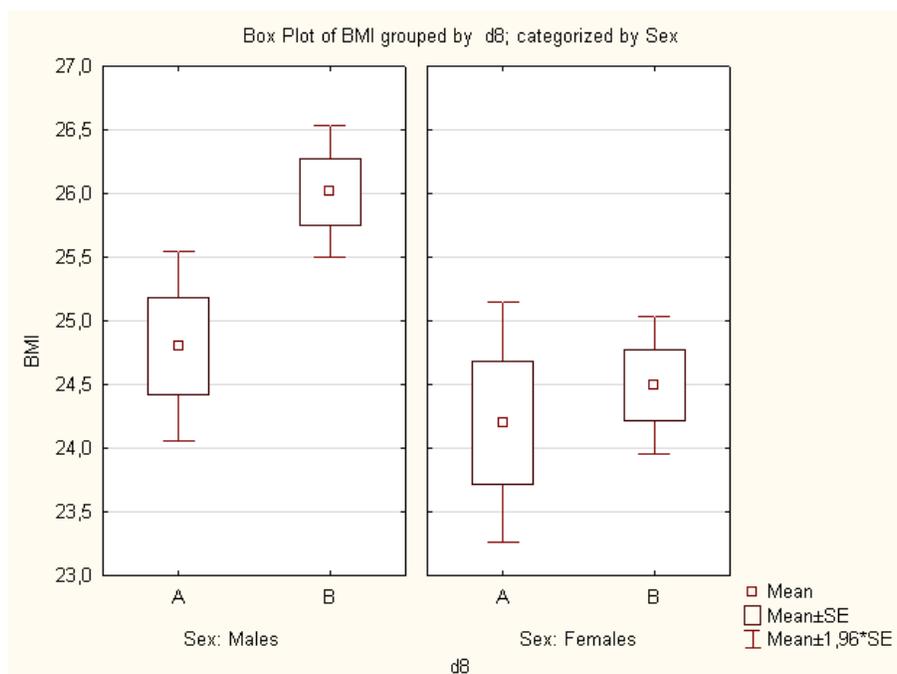| yes	165	29%
not	404	71%

Figure 1. BMI differences in question "do you practice regularly sport"? Yes(A)–No(B).
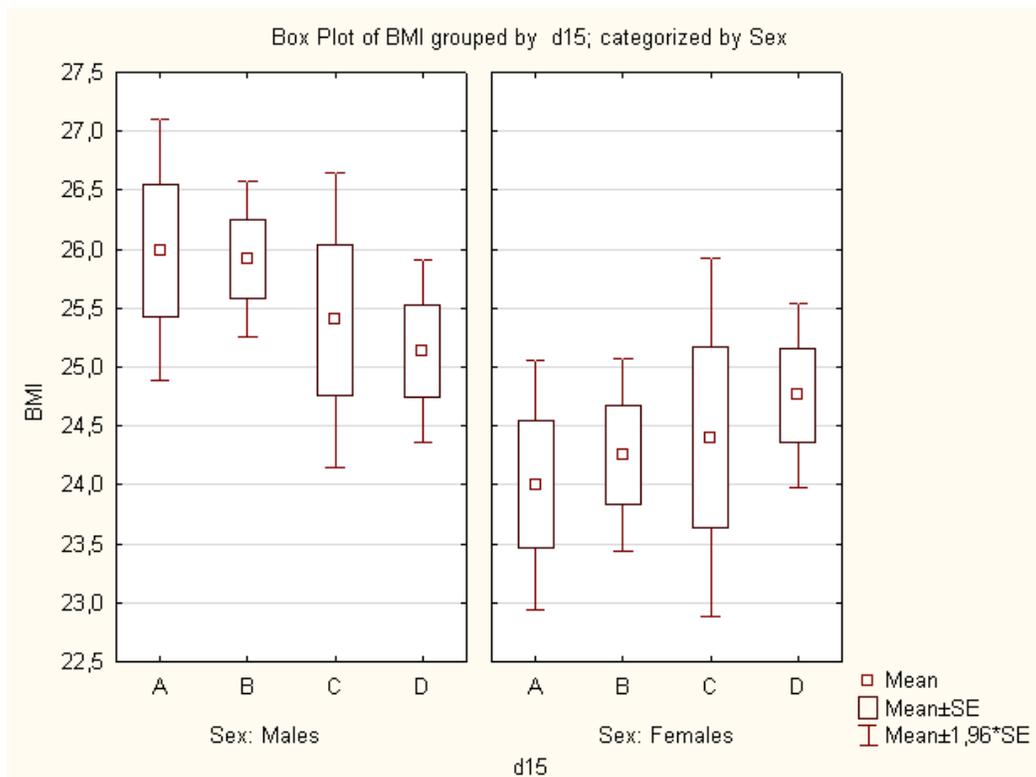
Figure 2. BMI differences according magnitude of settlement: less than 999 (A), 1000 – 29999 (B), 30000 – 99999 (C), 10000 and more(D).
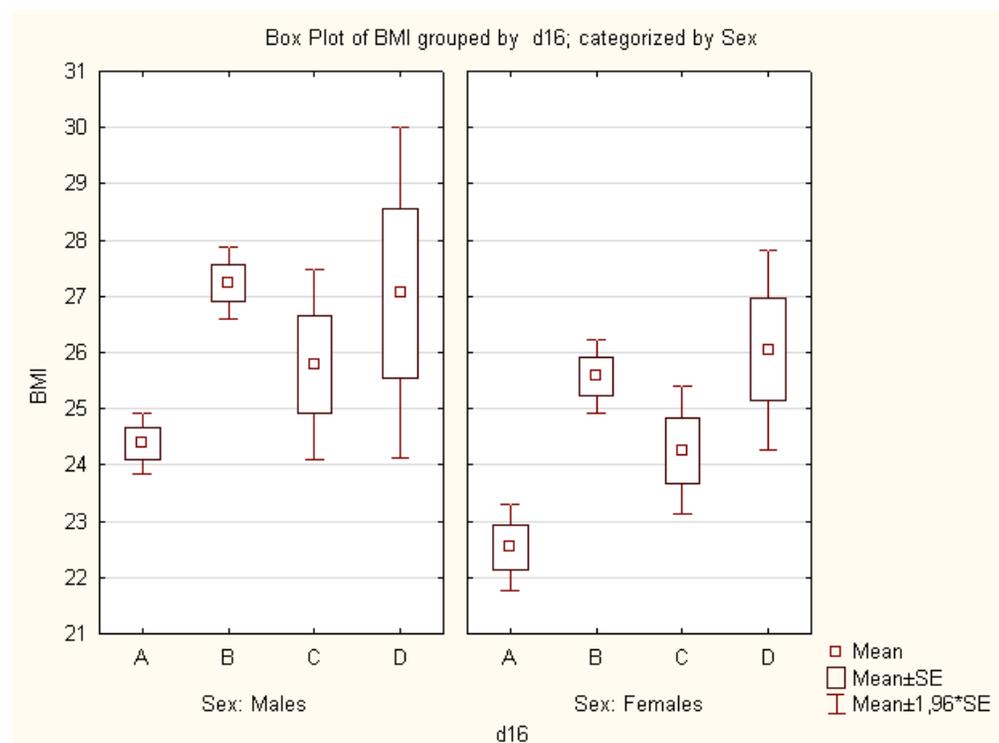

Figure 3. BMI differences according life status: single (A) - married (B)– divorced (C)– widowed (D)- registered partnership (none answer).
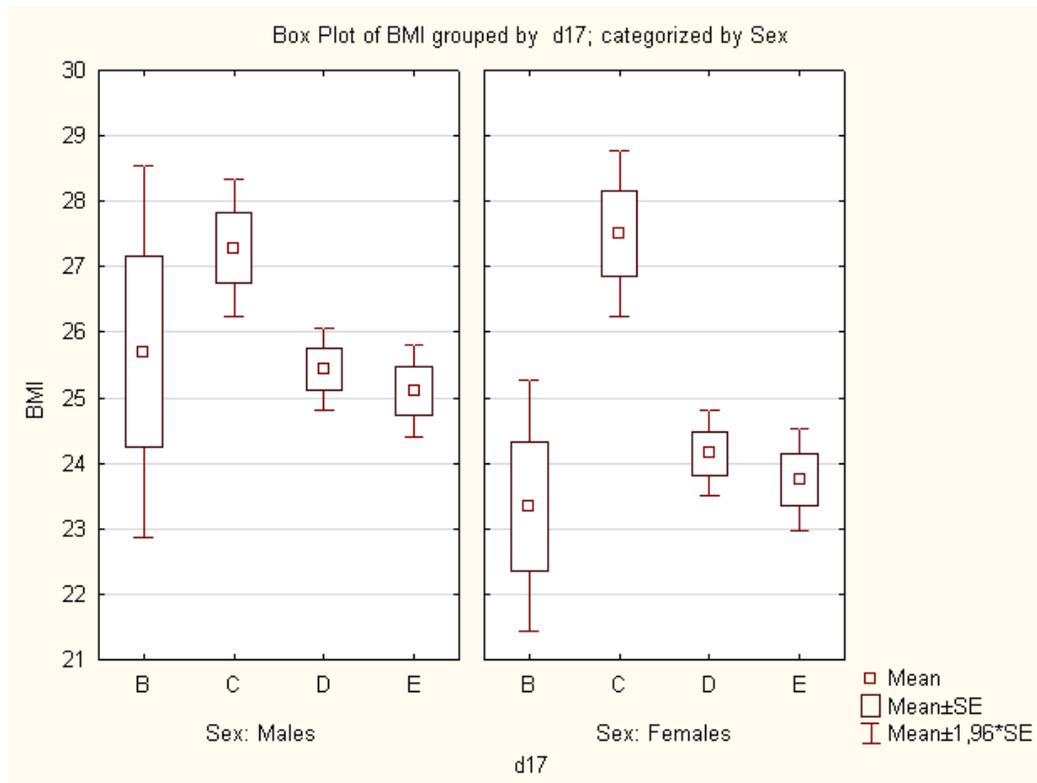
Figure 4. *BMI differences according education level: none education (none answer) - fundamental (B)-trainee (C)- GCE exam (D) – university(E).*

DISCUSSION

From the Table 1 can be seen that majority (71%) of Czech adult population do not regularly practice any sport. Logically this influence BMI level (Figure 1). Groups with negative answers have higher mean values, though statistical significant differences are watched only between groups of men.

Magnitude of settlement influence level of BMI parameter in a diifferent way in groups of male and female, too (Figure 2). While in male groups the BMI parameter falls down with the greater place of settlement. Thus the worse level have groups living in villages and small towns and the best are groups in greater towns. But all of the watched goups have average values considered like overweight. In groups of females can be seen different tendencies. The best level of BMI have those lining in villages and the worst are those from great towns. But all of females have average means lower like value 25, that is that they are considered in this parameter like normal groups. In both groups there were not found any statistical significant differences.

From the Figure 3 can be deduced that in both sex groups those who are single posses clearly lower BMI level comparing other groups. Together with the group of divorced females only these groups are beyond value 25 that is considered like limit of normality. Statistically significant differences are watched in male groups only between single and married groups, while in groups of females are statistically significant differences between group of singles and all others groups. For entrance in marriage is normally in age

about 30 (plus – minus) that is why groups of singles can be considered like youngest, while widowed like oldest.

In the Figure 4 can be seen that group of trainees both in groups of male and females posses clearly the highest BMI values comparing other groups. Significant statistical differences are logically watched between this trainee (C) groups and all other female groups and among males to GCE exam (D) and university (E) groups. From this can be deduced that with the higher level of education the BMI parameter is getting better values. In female groups only group of trainees is beyond normal values, while in groups of male the level of university group is closest of all groups to get in the normal values (under value 25).

CONCLUSIONS

1. Comparison of watched somatic parameter of present Czech senior population shows generally rather negative trends more in groups of men like of women.

2. Mainly older groups of both sexes have negative values of watched BMI parameter.

3. Majority of Czech adult population do not practice regularly any sport activity and this fact changes in negative way this watched somatic parameter.

4. Magnitude of settlement also influence BMI. The large place males live, the smaller BMI they have, but in groups of females are quite opposite tendencies.

5. Life status and level of reached education also influence BMI parameter. Better results have singles, married and divorced are slightly worse, while widowed and with lower level of education are clear the worst.

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