



THE RELATIONSHIP BETWEEN NUTRITION KNOWLEDGE, AEROBIC POWER AND LEVEL OF PHYSICAL ACTIVITY IN UNIVERSITY MALES STUDENTS OF DIFFERENT BODY WEIGHT CLASSES

Amin Daj Liri^{1*}, Farhad Rahmani Nia², Alireza Elmieh¹

¹Department of Sport Physiology, Rasht Branch, Islamic Azad University, Rasht, Iran

²Department of Sport Physiology, University of Guilan, Rasht, Iran

Abstract:

According to these research achievements, there is a meaningful relationship between all variables and the direction of all relationships is negative. By increasing in each of variables of nutrition knowledge, aerobic power and physical activity level the amount of the students body mass index decreases. So we can find out that nutrition knowledge, aerobic power and physical activity level are affected by the nomination of body mass index changing. Also heavy and fat are increasing in the boy students. 9.5% of students are lights 61.5% have normal weight, 21% are heavy and 7.8% are fat. 409 persons were used in this descriptive studying. The questionnaire of demographic information and the body test index was filled for them, and the body mass index (kg.m²) was calculated. The amount of physical activity was tested with physical activity questionnaire (Baeck), the amount of nutrition knowledge according to filling the standard questionnaire of nutrition knowledge (Parmenter & Wardal 1999) and the amount of aerobic Power was measured whit the a strand stairs test. The amount of physical activity, nutrition knowledge and different weight ranking prevalence was considered by statistic witting. According to the key pattern of the information collection about the effective factors on different body weight classes (fat, heavy, normal weight and light); this studying for achieving the information about physical activity and nutrition knowledge pattern, (for stuff model consumption) had done on boy student's whit different weight ranking in Tonekabon. The average of length, weight and age was been 177±8.35 cm, 74.4±15.95 kg.m², 22.2±3.45. In addition to the most profusions of refers to the normal weight ranking by 252 students and 61.6%, the least refers to the fat ranking by 32 students and 7.8% .The average and the veer of

standard of participation examinations in this research show that nutrition knowledge 43.8 ± 7.32 , aerobic power 2.47 ± 0.52 , physical activity level 7.92 ± 1.27 was achieved.

Keywords: different body weight classes, nutrition knowledge, level of physical activity, aerobic power

Introduction

In the last fifty years, researches have shown that the most important factors which are causing disabilities and premature deaths has changed from infectious diseases to chronic and degenerative diseases. During these years due to increasing of prosperity in life overuse consuming of fats, meat and sugar have been common increasingly and from the other hand the physical activity has decreased; so these factors lead to increase in non-communicable diseases and the risks related to them (4.) Also according to documents diet and nutrition plays a great role in the health maintenance and disease prevention. According to reports (2005) among the 1.6 billion people of adults, approximately 400 million people are overweight and it is expected that in 2015 this figure would reach to 2.3 billion overweight people and 700 million fat people (8). Overweight and underweight are multi-factor phenomenon's which are coming from several complicated factors such as inheritance and behavioral components. Behavioral components, in turn, involve physical activity and diet which is influenced by social, cultural and environmental fields (12, 15). Everyday life patterns lead most humans toward an inactive lifestyle. Industrial life despite the numerous services to humans had also some implications which motor poverty is the most of them. As you know, the human body is designed for movement and it is incongruous with inactive lifestyle from a physiological perspective. Some evidence suggested that no or low physical activity is an important factor in the obesity and overweight. In contrast, there is another problem, from which many people are suffering and that takes away peace and comfort from them; it is underweight. Reducing taking energy or reducing energy consumption is leading to increasing in the rampant of underweight. It seems that genetic factors are also factors that may be lead to underweight (24). Underweight and obesity are major problems of malnutrition. And on the other hand, along with the problems of obesity and overweight the underweight problem is promulgating especially in developing countries (33).

The most important complications of malnutrition were lack of sufficient growth, the incidence of infections and reduce capabilities which lead to weakness, disability, psychological, social, economic, cultural problems, education, and health decline which

still gripped the Iranian people despite of significant actions taken in the health sector. In developing countries, medical systems are more focusing on obesity than underweight while the complications of underweight especially in young ages are more harmful (20). According to literature, it is evident that obesity and underweight is, growing not only in developed countries but also it is spreading in the undeveloped countries and it is increasing as a health problem. Also, in our country which is faced with the phenomenon of urbanization and industrialization as an undeveloped country the prevalence of obesity is rising (31). The amount of prevalence of obesity in Iran in 1999, 2005, 2007 has been 13.6%, 19.6%, 22.3% respectively. The overweight way in years 1999, 2005, 2007 has been 32.2%, 35.8%, 36.3% respectively (30). In Malaysia, the way of overweight in the 13-17 aged kids has increased from 1% at 1990 to 6% at 1997.

In this respect in Iran some researches which refer to them has done. The results of Gasemi research indicates that in the urban regions 11% boys and 9% girls and in the rural regions 6.9% boys and 7.3% girls have overweight(31). Also, Darbani reported the prevalence of obesity and overweight in children 12-7 years as 6.5% and 10.9% respectively (34). In addition, much research has examined the factors influencing obesity and considered lack of physical activity and inactivity as one of the main reasons for the increase in overweight of children (31). One of the easiest ways to maintain good health and having optimum weight is having appropriate physical activity (16). Also Tyle et al by study the prevalence obesity in mature children (13-18 years old) found that the obesity is more prevalence in peoples that have less physical activity. In the studies conducted over American teenagers in 2004 have seen that people who were obese and overweight significantly had less physical activity in comparison with teenagers that had normal weight (36). As well as in investigating non-communicable diseases in our country the chance of married men was 1.09% more than unmarried men (6). In investigating non-communicable diseases of all age groups (15-65 years) the chance of obesity has increased following marriage for men and women 2.2% and 2.3% respectively (23). Gender, race, risk of poverty position are 3 risk factors in relation with overweight problem which control weight is ignored in most studies.

Also, it is reported that poverty and low level of education apart from race are related to obesity. The obtained results from conducted research in the Sistan and Baluchestan (26) and Yazd (17) are reported prevalence of underweight, obesity (16.2%, 8.6%, 1.5%) and (18%, 8.8%, 4.3%) respectively (13). The research conducted by Mortazavi et al is reported underweight and obesity in Zahedan 18.3% and 1.3% (28). Of course, results of low difference between overweight and underweight reported in our country. According to a research which is done by Jafari et al in Sari city over 240

girls (14-18 years old) prevalence of underweight and obesity reported as 3.7% and 3.2% (18). Now according to mentioned items we are trying to investigate to prevalence of obesity, overweight primal weight and underweight in the students and also investigate relationship between nutrition knowledge, aerobic capacity and level of physical activity in male students with different age categories and finally compare obtained results with findings of home and abroad researchers.

Materials and methods

This study is a descriptive and correlation research. The population of this research is all male students of Universities of Tonekabon city who are selected physical education (1 and 2) unit and 409 individuals were selected by using initial sampling method as sample size and nutrition knowledge and physical activity level questionnaire administered to them.

Table1: Frequency distribution and body mass index of respondents according to weight classes of students

Variable(BMI)	Frequency	Percent
Underweight	39	9.6
Optimal weight	252	61.6
Overweight	86	21
Obesity	32	7.8
Overall	409	100%

After translating the standard nutrition knowledge questionnaire (Parmanter and Vardel) and modifying some items considering food habits in Iranian culture. Opinions of experts for gaining face validity and Cronbach's alpha for obtain reliability were considered. Cronbach's alpha were obtained 0.78 for knowledge session and for attitude obtained 0.74. Thus, the questionnaire was prepared for the main stage distribution.

The level of physical activity was assessed using a Beck et al questionnaire with some changes. The mentioned questionnaire contains 16 items which are in three parts, first part physical activity, second part free time, third part exercise and physical activity related to job has been set. Also, Pele Astrand and Nomogram Astrand-Raiming for measuring aerobic power have been used. Subjects were required to during 5 minutes and in each minute 22.5 times goes up and down the stairs by the song which was played with metronome. After 5 minutes, the subjects were asked to remain in a standing position after 15 seconds heart rate of subjects for about 15 seconds to be counted. If the subjects was over 25 years old age correction factor was used. Such that

the estimated amount of aerobic capacity via standard liters per minute was multiplied in age correction factor and obtained figure was equal to aerobic power of individual. To calculate the weight, a digital scale and tape measure was used to determine the height of Students and was registered in the recording sheet results. A statistical Kolmogorov–Smirnov test for normalizing data review Pearson's correlation coefficient test and multiple regression tests (step by step) were used for review relationship between nutrition knowledge, aerobic power and physical activity level in male students with different weight categories. In all tests the error amount ($p < 0.05$) calculated. And all statistical analyzes were performed using the SPSS software.

Findings

Results of Kolmogorov–Smirnov test, confirmed normal distribution of data. And the results of average height, weight, age of participants are reported in Table 2.

Table 2: The mean and standard deviation of height, weight and age of subjects

Gender	Height	Weight	Age
Male	177±8.35	74.4±15.95	22.2±3.45

Table 3: Distribution mean and standard deviation scores of respondents in the index of nutrition, physical activity, aerobic power based on weight class

Weight class	Mean	SD	MEAN	SD	MEAN	SD
Underweight	42.6	8.4	7.9	1.3	2.5	0.62
Optimal Weight	44.3	8.1	8.5	1.3	2.7	0.54
Overweight	44.8	6	8	1.2	2.5	0.48
Obese	43.5	6.8	7.3	1.3	2.2	0.55

The mean and standard deviation scores of respondents on (nutrition knowledge, physical activity level and aerobic power) indicators in separate of weight classes indicates that: nutrition knowledge is belonged to overweight respondents with the highest average to amount 44.8 with standard deviation (6) and the lowest mean to the amount 42.67 with standard deviation (8.4) is belonged to the underweight respondents. In the physical activity indicator, the highest average belonged to optimal weight category to the amount of 8.5 with standard deviation 1.3 and the lowest average by amount 7.3 with standard deviation 1.3 belonged to obesity. In the aerobic power indicator of respondents, a little difference can be seen in age categories and finally the highest average by amount of 7.2 belongs to the category of ideal body weight (Table 3).

In studying hypothesis of research as under the title there is a relationship between nutrition, aerobic capacity and level of physical activity with weight classes' of male students .in the review of correlation analysis between variables of nutrition knowledge, aerobic power and physical activity level with weight categories in the correlation matrix that is reported in table 4 with Pearson correlation test results shows that relationship between nutrition knowledge and weight classes is meaningful in the 0.95 level and the calculated relationship is reversed. The relationship between aerobic power and weight classes at the level of 0.95 is meaningful. And the calculated relationship is reversed. The relationship between physical activities with weight classes significant at 0.95 level and the calculated relationship is reversed table (4).

Table 4: Pearson correlation coefficient between nutrition knowledge, aerobic capacity and level of physical activity and weight classes

Variable	The body mass index	Sig
Physical activity level	-0.160	0.001
Nutrition knowledge	-0.146	0.003
Aerobic power	-0.155	0.002

Also multiple regressions was used for investigate the predictive role of nutrition knowledge, aerobic power and physical activity level with the weight classes of the multiple regression which summary results are presented in Table 5.

Table 5: A summary of regression analysis of Nutrition knowledge variables, aerobic power and physical activity with weight classes

Predictor variables	R	R^2	ΔR^2	F	sig	β	sr^2
The first step of physical activity level	0.160	0.026	0.023	10.66	0.00	-0.160	0.166

Results of the table above indicate that the variable of physical activity level had been capable to justify 2.3 percent of the variance in weight classes ($\Delta R^2 = 0.023$).

Also results of Table 5 shows that calculated F of variable level of physical activity is statistically meaningful. With 95% confidence it can be concluded that there is relationship between predictor variables of physical activity level with weight classes and among predictor variables (nutrition knowledge, aerobic capacity and level of physical activity) only the physical activity level variable has the power of predicting the criterion variable weight classes. Also results of research indicates that there is a relationship between nutrition knowledge and physical activity level in male students .the results has shown in table 6:

Table 6: Distribution correlation between nutrition knowledge and physical activity level in the underweight category

	Nutrition knowledge	Activity level	df	Cd	a level R	significant level	TR	T table
Nutrition knowledge	1.00	0.756						
Activity level	0.756	1.00	37	57.2	0.01	0.393	0.00	7.03 2.7

According to the correlation coefficient with amount ($P < 0.05$, 0.739) there is a relationship between nutrition knowledge and physical activity level in male students with optimal weight and the relationship between nutrition knowledge and physical activity level in male students with optimal weight is meaningful with 95 % confidence. The relationship is positive. Also, the determination coefficient calculated 54.6 shows that we can attribute 54.6 % from physical activity changes to the nutrition knowledge. Also, results of research indicate that there is relationship between nutrition knowledge and physical activity level in male students with overweight. Results are reported in Table 8.

Table 8: Distribution of correlation coefficient between nutrition knowledge and physical activity level in overweight category

	Nutrition knowledge	Activity level	d.f	Cd	a level R	significant level	tr	T table
Nutrition knowledge	1.00	0.754						
Activity level	0.754	1.00	84	56.8	0.01	0.267	0.00	10.5 2.61

According to the correlation coefficient with amount of ($p < 0.05$, 0.754) there is relationship between nutrition knowledge and physical activity level with overweight in male students .and relationship between nutrition knowledge and physical activity level with overweight is meaningful with 95 percent confidence. The direction is positive. The calculated determination coefficient 56.8 indicates that we can attribute 56.8 percent of physical activity to nutrition knowledge. Also, results of research indicate that there is relationship between nutrition knowledge and physical activity level in fat male students .the results are reported in table 9.

Table 9: Distribution of correlation coefficient between nutrition knowledge and physical activity level in obesity category

	Nutrition knowledge	Activity level	d.f	Cd	a level R	significant level	tr	T table
Nutrition knowledge	1.00	0.762						
Activity level	0.762	1.00	30	58	0.01	0.393	0.00	6.43 2.7

The correlation coefficient with amount ($p < 0.05$, 0.762) there is a relationship between nutrition knowledge and physical activity level in fat male students .and this

relationship is meaningful by 95 percent confidence. The direct of relationship is positive. The calculated determination coefficient 58 shows that we can attribute 58 percent of physical activity changes to the nutrition knowledge. Also, results of research show that there is relationship between nutrition knowledge and aerobic power in underweight male students. Results are shown in table 10.

Table 10: Distribution of correlation coefficient between nutrition knowledge and aerobic power in underweight category

	Nutrition knowledge	Activity level	d.f	Cd	a level	R	significant level	tr	T table
Nutrition knowledge	1.00	0.637							
Aerobic power	0.637	1.00	37	40.5	0.01	0.393	0.00	5.02	2.7

According to correlation coefficient by amount ($p < 0.05$, 0.637) there is relationship between nutrition knowledge and aerobic power in underweight male students .and the relationship is meaningful by 95percent confidence. The direct of relationship is positive. The calculated determination coefficient 40.5 shows that we can attribute 40.5 percent of aerobic power changes to nutrition knowledge. Also, results of research indicate that there is a relationship between nutrition knowledge and aerobic power in male students with optimal weight. The results are indicated in table 11.

Table 11: Distribution of correlation coefficient between nutrition knowledge and aerobic power in optimal weight category

	Nutrition knowledge	Activity level	d.f	Cd	a level	R	significant level	tr	T table
Nutrition knowledge	1.00	0.826							
Aerobic power	0.826	1.00	250	68.2	0.01	0.254	0.00	23.17	2.57

According to correlation coefficient by amount ($p < 0.05$, 0.826) there is relationship between nutrition knowledge and aerobic power in male students with optimal weight .and the relationship is meaningful by 95percent confidence. The direct of relationship is positive. The calculated determination coefficient 68.2 shows that we can attribute 68.2 percent of aerobic power changes to nutrition knowledge. Also, results of research indicate that there is a relationship between nutrition knowledge and aerobic power in male students with overweight. The results are indicated in table 12.

Table12: Distribution of correlation coefficient between nutrition knowledge and aerobic power in overweight category

	Nutrition knowledge	Activity level	d.f	Cd	a level R	significant level	tr	T table
Nutrition knowledge	1.00	0.841						
Aerobic power	0.841	1.00	84	70.7	0.01	0.267	0.00	14.23 2.61

According to correlation coefficient by amount ($p < 0.05$, 0.366) there is relationship between nutrition knowledge and aerobic power in male students with overweight .and the relationship is meaningful by 95percent confidence. The direct of relationship is positive. The calculated determination coefficient 70.7 shows that we can attribute 70.7 percent of aerobic power changes to nutrition knowledge. Also, results of research indicate that there is a relationship between nutrition knowledge and aerobic power in fat male students. The results are indicated in table 13.

Table 13: Distribution of correlation coefficient between nutrition knowledge and aerobic power in overweight category

	Nutrition knowledge	Activity level	d.f	Cd	a level R	significant level	tr	T table
Nutrition knowledge	1.00	0.366						
Aerobic power	0.366	1.00	30	13.4	0.05	0.304	0.03	2.15 2.01

According to correlation coefficient by amount ($p < 0.05$, 0.366) there is relationship between nutrition knowledge and aerobic power in fat male students. And the relationship is meaningful by 95percent confidence. The direct of relationship is positive. The calculated determination coefficient 13.4 shows that we can attribute 13.4 percent of aerobic power changes to nutrition knowledge.

Discussion and conclusion

The results of this study indicate that: mean and deviation of (nutrition knowledge) estimated (6.2 ± 45.2). Also, it can be concluded that male students are lower than the average level in terms of nutrition knowledge which is opposite to Barzegari et al (2011) research results, nutrition knowledge of male students 57.28% which indicates that students are at medium level in terms of nutrition knowledge (7).

Results of this study indicated meaningful relationship between nutrition knowledge and aerobic power of male students with different weight categories which is consists with study results of Daneshmandi et al (2010). Results of the study indicated that there is a meaningful relationship between aerobic capacity and age, BMI and the number of hours of exercise per week (11). Also, results of Nora et al (2011) indicated that there is a meaningful and inverse relationship in males between percentile of body

fat and cardio respiratory fitness. These results were in accordance with Marshal et al (2004) results. They in their researches increasing physical activity planned for preventing obesity and increased body fat expressed essential (32). It is consistent with findings of Shimal Koli et al (2010) that relationship between BMI and fat percentage and aerobic power with some Anthropometric variables.

The mean and deviation estimated physical activity of current study in male students of master degree was (1.3 ± 8.1) and at associate (8.4 ± 1.4) which shows that male students are in medium level in terms of physical activity. Results of Moghaddam et al (2009) research indicated that almost a half of students had little physical activity. In another study in Turkey Yabancı et al (2010) which has done over 1066 people of Turkish men and women they had seen that age is one of the most important and effective factor on the obesity and abdominal obesity which is consistent with current research (29).

Maybe one of the reasons for this low prevalence of overweight and obesity in the study group Berzin et al (2009) are the amount of 37.9% severe and moderate physical activity in them. The significant relationship between physical inactivity prevalence of obesity has been reported in Switzerland (2008), England (2008), South America (2002), Kuwait (2003) and Iran (2008). (8). Results of Daneshmandi et al (2008) research indicates that there is a significant relationship between underweight, obesity and body mass index with physical fitness of students these results are in consistent with researches of Martinez (2002), Kyle (2001), Kendal (2002), Thayyil (2004). they found in their research that active people have less BMI in comparison with inactive people (35). also it is consistent with results of current study. Results of this study indicates that 21% of students are overweight while conducted research by Mirdar et al (2005) indicates that 35.1% of female students and 20.3 % of male students of Mazandaran university are overweight. Also, a study conducted in the Ziaeddin Medical Faculty in Pakistan shows that 12.6% of students are overweight. Conducted studies during 1999-2002 in America shows that almost 65% of peoples over 20 years were fat or overweight (25). In current study, 7.8% of male students are obese. Which is consistent with results of Mirdar et al (2005). 28.1% of female students and 8.5% of male students are obese (25).

The results of Bahralolom et al. (1389), showed that in active students Body Fat Percentage is 13.4 ± 3.2 and inactive students is 16.7 ± 6.2 , which their difference were meaningful statistically. In body mass active students had average had 22.6 ± 2.8 and inactive students were 22.3 ± 3.8 but there was no significant difference between the two groups. Results of current study showed the prevalence of underweight, optimal weight, overweight and obesity in male students 18-30 years old 91.6, 61.5, 21 and 7.8%

respectively. The average of BMI in students is in its natural state and the prevalence of overweight and underweight respectively has been low (7.8 ± 9.5) yet prevalence of overweight is relatively high (21%).

Amamoto et al (2004) reported that amount of overweight in Japanese students was 5.8% and amount of obesity was 0.0%. Sakamaki et al (2005) study which has done over Chinese students showed that prevalence of overweight 25% and prevalence of obesity was 0.4. But in United States, prevalence of overweight or obesity in students has been reported 35%. Bonz et al (2007) expressed the prevalence obesity in 19-26 American men 21.1%. Another research which has done by Ayatollahi et al (2010) at Shiraz city revealed that obesity and overweight in men is 49.7 and 10.5 respectively which shows almost 5.8 % during a 14 period. A study which has been done by Vaghari et al (2010) in Golistan reported prevalence of obesity in men 15.4% and prevalence of overweight 32.9%. In a review in Shiraz (2002) in men 19-29 years the average body mass index was 22.1 ± 3.8 Kilograms per square meter, underweight 12%, normal weight 69.7%, overweight 13.9% and obesity 4.4% has been reported. Results of Barzin et al (2007) prevalence of overweight and obesity in young men 18-25 years' old Tehran city 23.2% and 9.5% respectively and average body mass index (standard deviation) 24.1 ± 6.5 kilograms per square meter reported. The highest prevalence of overweight WAS in 24 years people with 41.5% and the highest rate of obesity at 25 years old with 4.18% was observed. 9.6% of all subjects were underweight (Body mass index < 18.5) and the highest rates were seen in 18 years (15.4%) the underweight problem was not found in the 24 and 25 years people(0%)which shows that the problem of overweight and obesity in young people in Tehran excels on malnutrition. The results Barzegari and colleagues (2011) showed that average of BMI of Payame Nor University of Golistan province is normal but prevalence of overweight is relatively large (14.1%) and prevalence of obesity were too low (2.2%). According to results of Varo (2001) study at united states prevalence of overweight 36 and prevalence of obesity has been reported 21%.but in US prevalence of overweight and obesity (BMI > 25) in the students has been reported 35%. And in Europe 10 to 20 percent of men are obese.

Findings of current research is similar to amount of overweight and obesity in 18-25 years men of Tehran city(2007) and 19-29 years of Shiraz city (2002) and 16-24 men of English (2007)(23% and 6%) and 19-38 men of Greece (2004)(26.5% and 4.7%) and 18 years men of Austria (15.5% and 5.8 %). Also, it is very similar to findings of Astamatakys (2008), which has been done over 16-24 men of four different regions of the world (Netherlands, Hong Kong, America and Singapore) and the prevalence of body mass index reported abnormal 32.2% ,obesity 9.2% and average body mass index has reported 23.6%. A study which was conducted in a population of neighboring

countries and East Mediterranean have shown that in Bahrain and Kuwait (2003) 25% of men are obese a study which has done in Saudi Arabia reported prevalence of obesity in men 51.5%. In Hong Kong (2001), 28.8% of the study populations were overweight and 3.4% was obese in Palestine (2003), 7.48% of men were overweight. A study which were conducted on Japanese (2004) and Chinese (2005) students reported the amount of overweight and obesity 5.8%, 2.5% and (0% zero percent), 4.0%, respectively. A study which has done by Zafar (2007) in Pakistan reported the prevalence of overweight and obesity in the 17-26 years old medical student in Lahore 20.5% and 6.2% respectively which is lower than of Barzin study et al (2007) and it is consistent with current study of course underweight was more in that study (21.3%).

This fact could be relevant with the per capita income, dietary patterns and lifestyle of young men of two countries and because of this fact the weight problems of Iranian youth less than Arabia countries. For example in Al Almi (2005) study in young boys of Saudi Arabia obesity and overweight was 17.2%, in Ajloni (1998) study in Jordanians men over 25 years old was 49.7%. Results of Cbay (2003) study in Lebanese men over 20 years was 57.5% , results of Martinez (2006) study in Kuwait high school boys was 44.4%, results of Badr study in teenager 11-19 years old was 12.1%, Kalter study in Arab and Jewish 18 years old men in occupied Palestine was 25% and 23% respectively.

According to the findings, it becomes clear that the rate of overweight and obesity in study groups in this study is similar to developed countries but the prevalence of obesity is more than European countries and less than American young. In Azadbakht study (2005) the prevalence of abdominal obesity in adult males of Tehran city reported 32.1% which could be because of more extent age range of the participants in the study. In Ramos et al (2001) study abdominal obesity was reported 39.2% also in a study which was conducted in Oman by Alryamy et al. (2003) prevalence of abdominal obesity in men reported 31.5% which much higher than finding Berzin et al (1386). In Bhopal (1999), study in Pakistani men the prevalence of obesity was less than European men but the prevalence of obesity in them was higher than Europeans. Also in Azizi study (2004) which has done in 762 men of 20-29 years old in Tehran the average body mass index was reported 24 ± 4.4 which is similar to findings of Barzin et al (2007) research. In findings of Abdollahi et al (2010) research prevalence of obesity in urban population 25.5% (men 20.3%, women 30.7%) and also overweight and obesity in total 64.1% (62.65% men and 65.7% women). The study carried out in Iran, Gazipur (2003), Salem (2001), Azadbakht (2001) has shown an increase in overweight and obesity. The findings of Abdollahi and colleagues (2005) showed that by increasing age prevalence of obesity significantly increases such that the

risk of obesity in older ages than in the age under 29 years is 3 to 4 times higher. In conducted studies in Iran has found a similar pattern. One of the shortcomings of this study was that only male students and school (associate and BA) was conducted which is recommended to researchers in future researches do about girls and higher educational level (MA and PhD) in order that more reliable results presented to the community.

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