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## **THE VIEWS OF SCIENCE TEACHER CANDIDATES ON OBESITY AND THE FORMATION OF IT\***

*FEN BİLGİSİ ÖĞRETMEN ADAYLARININ OBEZİTE VE OBEZİTENİN  
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### **Abstract**

Today, healthy and balanced nutrition is given more importance, and both The Ministry of Health and several media organizations lay stress on this. Especially several public information films aim at raising awareness of healthy-balanced nutrition on people and also at prompting them to do various activities like sports since obesity has started to increase in our country as it worldwide has. In this regard, it is thought that teachers' duty is crucial in order to develop the comprehension of the little students on the obesity concept and to make them acquire true habits for nutrition. Therefore, in this study, it is aimed to determine the views of the teacher candidates, who are the teachers of the future, on obesity and the factors relating to it. The study was planned as having qualitative research design that is not experimental and being appropriate for group work. It was believed that the planning of the study as case study would be more appropriate since it would suggest the views of the science teacher candidates on obesity in a detailed way. It was done in 2009-2010 academic year. 28 teacher candidates who were at third grade at a very big university in Istanbul participated in this study. It was also interviewed with 3 teacher candidates randomly selected. Study data were gathered by using 10 open ended questions prepared by the researchers and 4 interview questions. Whereas the data obtained from the open ended questions were assessed by using content analysis that is among the qualitative research data analysis

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methods, the data obtained from interview questions were interpreted by tabularising. According to some data obtained from the study, it was identified that the teacher candidates generally described obesity as overweightness, and aimed at teaching healthy and balanced nutrition to prevent it. It was observed that teacher candidates, in order to prevent obesity, thought about making informative meetings with families, and making the students comprehend the importance of obesity by showing them some case studies. In accordance with the data obtained from the study, some proposals were put forth about this issue.

**Key Words:** Obesity, Science Education, Teacher Candidate

### Özet

Günümüzde sağlıklı ve dengeli beslenme üzerine yapılan vurgu önemli ölçüde artmış; gerek sağlık bakanlığı gerekse pek çok medya kurumu konunun önemine dikkat çekmektedir. Dünya genelinde olduğu gibi, ülkemizde de obezitenin artmaya başlaması nedeniyle; özellikle pek çok kamu spotu halkı, sağlıklı-dengeli beslenme konularında bilinçlendirmeye ve spor gibi çeşitli aktiviteleri yapmaya teşvik etmeyi amaçlamaktadır. Bu bağlamda küçük yaşlarda olan öğrencilerin kavrama ilişkin algılarının geliştirilmesi ve beslenmeyle ilgili doğru alışkanlıklar edinebilmesi için öğretmenlere düşen görevin oldukça önemli olduğu düşünülmektedir. Bu nedenle araştırmada geleceğin öğretmenleri olan öğretmen adaylarının obezite ve obeziteye ilişkin etmenler konusunda görüşlerinin saptanması amaçlanmıştır. Araştırma deneysel olmayan nitel araştırma tasarımına sahip ve durum çalışmasına uygun olacak nitelikte planlanmıştır. Araştırmanın, fen bilgisi öğretmen adaylarının obeziteye ilişkin görüşlerini ayrıntılı bir şekilde ortaya koyacak olması nedeniyle, durum çalışması şeklinde planlanmasının daha uygun olduğu düşünülmüştür. Araştırma 2009-2010 eğitim-öğretim yılında gerçekleştirilmiştir. Araştırmaya İstanbul ilinde bulunan büyük ölçekli bir üniversitenin 3. sınıfında okumakta olan 28 öğretmen adayı katılmıştır. Ayrıca rastgele seçilen 3 öğretmen adayı ile de görüşme yapılmıştır. Araştırma verileri, araştırmacılar tarafından hazırlanan 10 açık uçlu soru ve 4 görüşme sorusu kullanılarak toplanmıştır. Araştırmada açık uçlu sorulardan elde edilen veriler, nitel araştırma veri analiz yöntemlerinden biri olan içerik analizi kullanılarak değerlendirilmiştir. Görüşme sorularından elde edilen veriler ise tablolar haline getirilerek yorumlanmıştır. Araştırmadan elde edilen bazı verilere göre öğretmen adaylarının genellikle obeziteyi aşırı şişmanlık olarak niteledikleri, önlenmesi adına sağlıklı ve dengeli beslenmeyi öğretmeyi hedefledikleri tespit edilmiştir. Öğretmen adayları öğrencilerin obez olmaması için aileyle bilgilendirici toplantılar yapmayı, öğrencilere ise çeşitli örnek olaylar göstererek konuyu önemini kavratmayı düşündükleri görülmüştür. Araştırma sonucunda elde edilen veriler doğrultusunda öneriler getirilmiştir.

**Anahtar Kelimeler:** Obezite, Fen Eğitimi, Öğretmen Adayı

## INTRODUCTION

Today, the emphasis on healthy and balanced nourishment has increased drastically; hence, not only the Ministry of Health but also several media organizations have begun various studies in order to draw attention to the importance of the subject. As it is the case worldwide, due to the rise of obesity in our country, especially several public spots aim at raising the awareness of the people for healthy and balanced nutrition and encouraging them to do various physical activities like sports. In fact, according to the statements of Altunkaynak and Özbek (2006) among the diseases that affected the humanity, merely obesity has become so much common.

Although it seems that obesity is a problem interested in adult people, owing to the fact that its roots date back to the infancy and puberty, it is the concern of childhood right away (Kamak, 2000, cited. Akış, Pala, İrgil, Aydın and Aksu, 2003; James, Thomas and Kerr, 2007); furthermore, the increasing frequency of this in childhood causes the raise of importance on the subject (Babaoğlu, 2002; James and Kerr, 2005). Just as Strauss and Pollack's (2006) statements, it is determined that over than 20 % of the children between 6 and 11 are over-weight (cited. Dallar, Savaş Erdere, Çakır and Köstü, 2006). In addition to this, in its report of 2007 Europe Zone Office, World Health Organization (WHO) has drawn the attention to the fact that that obesity is one of the most important public health struggles of the World, and the tendency has reached to an alarming level for the children and teenagers (cited. Ergül and Kalkım, 2011).

Obesity is a chronic disease resulting from the energy taken via nutrients is more than the one used up by the body and characterized by the increase of body fat ratio to the fatless one (Altunkaynak and Özbek, 2006). Within long time, obesity causes high blood pressure, hypercholesterolemia, hyperinsulinism, coronary artery disease and diabetes (Gözü, 2007). Besides, overweight and obesity self-confidence could affect the body image and social activities; additionally, lead to depression.

It seems that the main cause of the increase in obesity within the last 10-20 years is, with the industrial development, the transition from the life based on physical activities to the inactive one and the consumption of the food containing intensive calories (Babaoğlu, 2002). According to the statistics of World Health Organization (2007), the density of obesity cases in developing countries is interested in urbanization, income level, education and socio-economic situations (cited. Genç Kayıran, Taymaz, Kayıran, Memioğlu, Taymaz, & Gürakan, 2011). What's more, the increase of inactive activities like long period TV watching or the computer use, the decrease in taking complex carbohydrate and fibrous food, the consumption of fatty food and sugary drink and the increase in nourishment habit of "fast-food" style are the risk factors acting a crucial role in the rise of obesity (Vincente-Rodriguez and colleagues, 2008; cited. Ergül and Kalkım, 2011). In addition to all these, it is stated that the education level of parents is also an important factor for obesity (Lamerz, Kuepper-

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Nybelen, Wehle, Bruning, Trost-Brinkhues, Brenner, Hebebrand, & Herpertz-Dahlmann, 2005).

According to the statements of Altunkaynak and Özbek (2006), the eating habits of obese people are developed by a mechanism depending on many factors like toxic chemicals and lifestyle; meanwhile, environmental genetic and neurologic many factors contribute to the process as well. Besides, Baboğlu (2002) states that there is also a relation between obesity and psychological factors; furthermore, the eating habits of family, an environmental factor in childhood obesity, are pretty important too.

Aköz and colleagues (2007) note that it is important to make regulations and revisions in the nourishment of school age children, that's why, it is necessary to make this education a country policy by having families and the all facets of society focus on this subject (cited. Menteş, Menteş and Karacabey, 2011). In fact schools in Slovenia set an example for this case. According to this, students are supposed to drink a certain quantity of water per day so as to maintain a healthy life; in this context, a common study, involving various factors like eating habits by school and family, is carried out by teachers, families, school curriculum and billboard posters (Golob, 2011).

Ergül and Kalkım (2011) state that in order to prevent obesity and revise the deficiencies in inaccurate nourishment and faulty meal timing, it is compulsory to provide eating education, support the physical activities and get family and the school to collaborate .As it is not easy to change the body image and unhealthy nourishment habits advanced in years, Kılınçarslan, Törüner and Savaşer (2010) note that it is important to do the fatness prevention studies for the children of primary level. As a matter of fact, Çiftçili, Ünalın, Kalaça, Apaydın & Uzuner (2003) and Özbek & Topaloğlu (2007) put emphasis on the prevention of obesity in childhood. Since it is the easiest time for the one to change the ideas and thoughts Manger, Manger, Minno, Killmeyer, Holzman, Schullinger and Roccella, (2012) underline that assisting people in experiencing the processes in which they could change their lifestyles would be a precaution to stop obesity.

Schools, first social atmosphere children face up without families, are the places where the psychological-biological development and cultural alterations take place. School atmosphere poses great importance in term of reinforcing the eating habits gained in childhood (Warren, Henry, Lightowler, Bradshaw and Perwaiz, 2003; Kutlu and Çivi, 2009). Indeed Güneş, Genç and Pehlivan (2000) also state that schools are the good opportunities to step up healthy life conditions involving plenty exercises and well-nourishment.

School-based studies are the methods to decline the obesity cases in childhood. The fact that primary school's being compulsory and its capacity to be able to reach the children from the all facets of society via this atmosphere increase the importance of school-based methods (Gürel, Gemalmaz and Dişçigil, 2004). Providing the children with the appropriate eating habits, regulating school canteens accordingly healthy and normal child nourishment, placing a room for the fatness discouragement education in school programs and increasing the amount of physical activities of children carry

vitality in the prevention of obesity (Caballero, 2004; Şimşek, Ulukol, Berberoğlu, Başkan Gülnar, Adıyaman and Öcal, 2005).

A child reaching primary school term spends most of his time at school. While the child is getting socialized, s/he also acquires different knowledge and skills. The most important task in this term belongs to teachers again as it is the case for all levels of education. Especially the educators working at primary school are not only parents or teachers but also role models. Such a term that students acquire various skills-no matter what the subject is-teachers' role is undeniably crucial.

According to the statements of Neyzi & Ertuğrul (2002) and Hatipoğlu & colleagues (2007), teachers have vital tasks in terms of preventing the eating problems of school age children and getting them to gain healthy eating habits (cited. Kutlu and Çivi, 2009). As a matter of fact, according to the explanations of Gürel and others (2004) teachers' knowledge on nourishment is one of the important factors determining the effects of school on the subject. Besides, it is rather essential to educate teachers as well so as to prevent obesity, choose the healthy food and do the physical activity (Köksal and Özel, 2008; Menteş and others, 2011).

As to the statements of Gürel and others (2004), knowledge obtained via media cannot become enough so that there is a necessity of education for teachers about healthy nourishment. This case comprises the core of our research. Teachers' mission is remarkably important because they help the children in early age to gain appropriate habits in term of eating and to enhance their perceptions on the concept. From this point, the question "What are the views of teacher candidates on obesity and the factors leading to obesity?" comprises the problem sentence of the research.

## **METHOD**

### **The Model of the Research and the Study Group**

Having the quality design unlike the experimental one, this research has been planned accordingly to the case study. The target of this type study is to examine a case thoroughly and to submit detailed outcomes on that case (Köse, 2010). It is thought that it would be more accurate to plan the research as case study since it would present the detailed views of science teacher candidates on obesity. The study was fulfilled in spring term of 2009-10 academic year. 28 teacher candidates from a highly populated university in İstanbul joined this research.

### **The Collection of the Research Data**

Open-ended and interview questions are the means of collecting data for the research. 10 open-ended questions were prepared by the researchers via consulting the three experts in science field for the comprehensive validity. These questions were asked to 28 teacher candidates.

In order to explicate the views of teacher candidates on the subject in a more detailed way, 4 interview questions were prepared by the researchers under the light

of expert views. Being voluntary, three of the teacher candidates joined to the interview were selected.

### The Analysis of the Research Data

The research data was evaluated by “content analysis” which is one of the quality analysis methods. According to this, acquired data represented first by coding then categorizing those codes under common themes. Some of the answers did not fit any of the common themes; therefore, they were categorized under the title of “other”. Obtained data from the open-ended and interview questions were turned into charts according to their repetition frequency (N) and interpreted.

## FINDINGS

The findings obtained from the research were charted under the titles as the answers to the open-ended questions and interview questions and interpreted.

### The Findings Obtained from Open-Ended Questions

At the very first question of the research, teacher candidates were asked to explain what the obesity is. Findings are on Table 1.

THEME	N
Overweight	12
Excessive eating	4
Constant eating	2
Disease	2
Unexpected body fat ratio	2
Unbalanced-nourishment	2
Other	5

**Table 1:** Findings for the First Question

As it is apparent in Table 1, teacher candidates frequently interpreted obesity as “overweight”. It is also observed that they convey obesity “excessive eating”. At the second question of the research, teacher candidates were asked to explain what they could do in order not to let their students become obese. Findings are on Table 2.

THEME	N
I prefer not to eat fast-food	8
I teach- explain the balanced-diet	7
I advise-explain healthy eating	4
I show them the pictures of obese people	2
I do not recommend them to eat junk food	2
I prohibit the selling of “fast-food” like food in canteen	2
I warn the families	2
I advise them to do sports	2
I inform the students	2
Other	9

**Table 2:** Findings for the Second Question

The things that teacher candidates could do for the students' not being obese are "preferring not to eat fast food", "teaching-explaining balanced-diet", and also "advising-explaining healthy eating". At the third question of the research, teacher candidates were asked to explain how the healthy nourishment could be. Findings are on Table 3.

THEME	N
Taking the required nutrients rationally	7
Taking the protein, carbohydrate, fat and vitamin in necessary quantities	4
Eating natural nutriments	3
Having adequate amount of all types of nutrients	3
Taking essential organic and inorganic nutrients	2
Taking the vital nutrients for the body	2
Eating everything in a required and balanced way	2
Eating everything piece by piece	2
Eating without skipping meal-times	2
Other	5

**Table 3:** Findings for the Third Question

As it is apparent on the Table 3, teacher candidates believe that healthy nourishment could be realized via taking the required nutrients rationally, eating natural nutriments, taking protein, carbohydrate, fat and vitamin in necessary quantities and also taking adequate quantity of all types nutrients. At the fourth question of the research, teacher candidates were asked to depict how they aim to have the pupils and families perceive the importance of healthy nourishment after graduation. Findings are on Table 4.

THEME-FAMILY	N	THEME-STUDENT	N
Having meeting	4	Providing various example situations	4
Showing tangible examples	4	Comparing healthy-unhealthy people	4
Informing about food	4	Explaining the balanced diet	3
Having them grasp the essentiality of healthy eating	3	Being role-model for the student	2
Making presentations	3	Keeping them away the junk food	2
Other	1	Explaining healthy nourishment	2
		Being careful about meal-times	2
		Other	12

**Table 4:** Findings for the Fourth Question

Teacher candidates state that they could bring out the vitality of healthy eating to the families by “having meeting, showing tangible examples, informing them about food, having them grasp the essentiality of healthy eating and making presentations. As for the students, teacher candidates note that they are able to have them get the point via providing various example situations, comparing healthy-unhealthy people and explaining the balanced-diet. At the fifth question of the research, teacher candidates were asked to list the first fifth activity one day in their lives. Findings are on Table 5.

1 <sup>st</sup> RANK	N	2 <sup>nd</sup> RANK	N	3 <sup>rd</sup> RANK	N	4 <sup>th</sup> RANK	N	5 <sup>th</sup> RANK	N
Walking	16	Walking	6	Studying	4	Eating	5	Sleeping	5
Commuting to school	4	Bus travel	2	Reading	3	Sleeping	4	Eating	3
Sports	4	Reading book	2	Watching TV	3	Watching TV	3	Watching TV	3
Studying	2	Going up stairs	2	Being busy with computer	2	Using computer	3	Resting	2
Other	2	Sports	2	Eating	2	Praying	2	Reading	2
		Cleaning	2	Speaking	2	Other	5	Using computer	2
		Other	12	Thinking	2			Other	5
				Other	8				

**Table 5:** Findings for the Fifth Question

On examining the first five activities frequently done by the teacher candidates, it is observed that the very first two “walking”; next “studying, eating and sleeping” respectively. At the sixth question of the research, teacher candidates were asked to define what the energy biologically is. Findings are on Table 6.

THEME	N
Fuel required for body functions	5
Fuel required for doing various activities	3
Energy needed for daily activities	2
Calorie	2
Necessary factor to maintain life	2
Other	10

**Table 6:** Findings for the Sixth Question

Teacher candidates depict the energy biologically as “fuel required for the body functions and various activities”. At the seventh question of the research, teacher candidates were asked to explain how the living creatures get the energy they need. Findings are on Table 7.



THEME	N
Nutrients	22
Photosynthesis (for plants)	4
Digesting food	4
Respiration	2
Other	1

**Table 7:** Findings for the Seventh Question

As it is obvious at Table 7, teacher candidates state that they get the energy they need from “nutrients”. Besides, they think that “digesting food and as for plants photosynthesis” are the ways to obtain energy. At the eighth questions of the research, teacher candidates were asked to explain their views on whether the energy is the same or not for the each activity.

THEME	N
Walking-Running	9
Any type of activity	3
Walking-Swimming-Running	2
Walking-Working at table	2
Riding bike-Walking-Sitting	2
Other	8

**Table 8:** Findings for the Eighth Question

Upon examining the replies to the questions, it is observed that teacher candidates consider that the energy living creatures spend is not the same for every activity. They frequently pointed out the activity “walking-running” while giving instances. At the ninth question of the research, teacher candidates were asked to give examples for which physical activities they spend energy. Findings are on Table 9.

THEME	N
Any kind of physical activity	12
Walking	11
Running	7
Sports	7
Sleeping	7
Eating	4
Reading	3
Speaking	3
Sitting	2
Playing game	2
Mental exercise	2
Other	5

**Table 9:** Findings for the Ninth Question

As it is apparent on Table 9, teacher candidates expressed that “any kind of physical activity, walking running, sports and sleeping” like activities are the ones they spend energy. For the tenth question of the research, teacher candidates were asked to define the food giving the energy most. Findings are on Table 10.

THEME	N
Fat	13
Carbohydrate	8
Protein	2
Chocolate	2
Egg	1
Meat	1
Dairy products	1
Walnut	1
Grape molasses	1

**Table 10:** Findings for the Tenth Question

As it is observed at Table 10, teacher candidates noted that the food giving the energy most are as “fat and carbohydrate”.

#### Findings Obtained Interview Questions

While interviewing, teacher candidates were first asked to explain by giving reasons when they decide to buy light products or not. Findings are on Table 11.

	YES	NO	WHY
T1		*	
T2	*		Nutritional value, brand
T3		*	

**Table 11:** Findings for the First Interview Question

Only one of the teachers expressed that s/he prefers buying light products owing to nutritional value and brand. At the second question of the interview, teacher candidates were asked to share their views by giving reasons whether there is a difference between light and normal products. Findings are on Table 12.

	YES	NO	WHY	
			LIGHT	NORMAL
T1	*		the low sugar ratio, fat ratio no weight-gaining	
T2	*		Being more nutritious (Ca in milk, and the same for fibrous food)	more flour more fat
T3	*		low energy less tasty	

**Table 12:** Findings for the Second Interview Question

As it is obvious at Table 12, all of three teacher candidates consider that there are differences between light and normal products. They made explanations about the light products like “low sugar ratio and fat ratio, no weight gaining, being more nutritious, having low energy and being less tasty.” In addition to these, it is observed that one of the teacher candidates pointed that normal products have more flour and fat”. At the third question of the interview, teacher candidates were asked to tell how they decide whether one is obese or not. Findings are on Table 13.

VIEWS	
<b>T1</b>	According to physical appearance being healthy
<b>T2</b>	According to fat and muscle ratio over-fat ratio height-weight ratio bone weight
<b>T3</b>	According to physical appearance fat and muscle ratio over fat ratio height-weight ratio

**Table 13:** Findings for the Third Interview Question

As it is observed at Table 13, 2<sup>nd</sup> and 3<sup>rd</sup> teacher candidates stated that according to fat and muscle ratio, over-fat and height-weight ratio they could decide whether a person is obese or not. Moreover, it is detected that 1<sup>st</sup> and 3<sup>rd</sup> teacher candidates have common view on “physical appearance”. Additionally, while 1<sup>st</sup> teacher candidate put emphasis on “one’s being healthy”, 2<sup>nd</sup> teacher candidate put emphasis on “one’s bone weight”. At the fourth interview question, teacher candidates were asked to explain both what type of food could cause obesity and what are the features of these nutrients; what’s more, how often they consume those products. Findings are on Table 14.

<u>CONSUMPTION</u>				
<u>FREQUENCY</u>				
	<u>TYPE OF FOOD</u>	<u>YES</u>	<u>NO</u>	<u>FEATURES</u>
<b>T1</b>	Fast-food Fries	During school time		Being fried Using the same oil constantly
<b>T2</b>	Fast-food Sausage and bacon like products	3 times a week		Containing trans fat
<b>T3</b>	Over-fat products Junk food consumption	-	-	-

**Table 14:** Findings for the Fourth Interview Question

Teacher candidates noted that "fast-food, fries sausage an bacon like products, over-fat products and junk food" are the food leading to being obese. Two of teacher candidates were observed to express the features of these nutrients as being fried, using the same oil constantly and containing trans-fat". Besides, it is also detected that two teacher candidates consume those nutrient types.

## RESULTS AND DISCUSSION

According to the outcomes acquired from the research, it is observed that teacher candidates frequently define obesity as "over-weight" furthermore "excessive eating". As to the Koç's (2006) statements, obesity, overall is a clinical case appearing the increase of fat tissue when the taken energy is more than used up energy (cited. Ergül and Kalkım, 2011).

In the research, it is observed that there is a mismatching for the definition of obesity between the on teacher candidates made and the one scientifically available; therefore, it is thought that teacher candidates have kind of misperception on the concept. This is an adequate sign that teacher candidates could cause misperception and misdirection in term of taking decisions about students or directing students and parents.

Teacher candidates were detected were detected to think teaching students to keep away fast-food have a balanced-diet. Eat healthy food in order not to become obese. As a matter of fact Uskun, Öztürk, Kişioğlu, Kırbıyık and Demirel (2005) points out the harms of skipping mealtimes or eating fast-food. As for Kutlu, Çivi and Erdem Köroğlu (2008), they state that explaining pupils the principles adequate and balanced nourishment would contribute to children's being healthy. Likely Kalyoncu, Metitaş, Balız and Arıkan (2011) noted that it is necessary to arrange various educational policies so as to increase the physical activities at school which could contribute a lot to decreasing or preventing obesity. Süzek, Arı and Uyanık (2005) put much emphasis on the subjects like declining to take nutritional energy, participating in physical activities spending energy, having a habit of diet based on the consumption of vegetables, fruit and fibrous nutrients.

Teacher candidates consider that healthy nourishment would be possible by taking adequate quantity of the required nutrients, eating natural, taking protein, carbohydrate, fat and vitamin in necessary quantities and taking required nutrient groups. These views of teacher candidates on healthy nourishment are in accordance with Pyle and Poston's diet. According Pyle and Poston's (2006) statements, for arranging the nourishment content, it is compulsory to limit the amount of food which is fatty and rich in terms of carbohydrate and fat, not to eat package food, to stop snacking junk food between meals, to support the consumption of pulpy food like fresh fruit, vegetables and leguminous seeds (cited. Ergül and Kalkım 2011).

In addition to this outcome, for the families teacher candidates state that they could bring out the essentiality of healthy nourishment vice having meeting, showing tangible examples informing them about food, having them grasp the vitality of

healthy eating whereas for the students they could do it by having them get the point by comparing healthy-unhealthy people, providing various example situations, and explaining the balanced diet. Pyle and Poston (2006) expressed that it is necessary to inform the children and parents about fundamental knowledge like daily calorie taking, adequate and balanced-diet and food beneficial to health (cited. Ergül and Kalkım 2011). Lindsay, Sussner, Kim and Gortmaker (2006) stated that it is a must to implement large-scale school-based teaching programs in which families take participation in stopping obesity while Gable and Lutz (2000) defended to enhance the families knowledge of nourishment.

Teacher candidates defined the biology energy as fuel required for body functions and doing various activity and stated that they could take this energy via nutrients of which the energy cut most are fat and carbohydrates Moreover they said that energy is spend as doing any kinds of activities like walking, running ports and sleeping. On being asked about their daily activities, it is observed that they listed walking, studying, eating and sleeping. Furthermore, teacher candidates consider the energy spent for each activity by living creatures in not the same and they depicted the view by giving the example activities like walking-running. Hill, Wyatt, Reed and Peters (2003) pointed out the necessity of having knowledge for being able to use their own energy requirements, hence, it is compulsory for people to know the appropriate amount of portion for themselves the energy value of nutrients and the amount of physical activity they are supposed to do accordingly the food they consume.

As to the outcomes of interview questions, teacher candidates stated that they could decide whether one is obese or not by examining fat-muscle ratio/height- weight ratio and bone weight physical appearance or health conditions; what's more, the over-fat ratio. Indeed literature also attaches importance to determine the ratio between fatty and fatless tissue (Gözü, 2007) and to calculate height-weight ratio (Önen Sertez and Elbi Mete 2005).

Among the food groups leading to being obese teacher candidates mentioned fast-food, products like sausage and bacon, over-fat products and junk food, adding that they are harmful due to being fried, using the same oil constantly and containing trans-fat. According to the statements of Süzek and others (2005), the rapid alteration in eating habits, the consumption of high energy value nutrients like fast-food ant the inadequate calorie spent are accepted as crucial factors leading to obesity. It is detected in the research that two teacher candidates keep consuming those foods though they defined them as harmful nutrient groups. In addition to these outcomes, according to the findings obtained from the questions addressed to determine the views about the relation between light and normal products, it is observed that only one of the teacher candidates prefer buying light despite the fact that they have a certain knowledge on the issue.

It could be discussed that the current situation of eating habits is related to the adaption of different life styles in globalized world. Nonetheless, teachers carrying the

missions of being role model for pupils are considered to have more effective results by explicating their own reactions and thinking over them.

The outcomes of the research showed that teacher candidates have enough views about what the obesity is and how it appears; however, these views need to be improved. Especially the increase in attaching importance to the issue has affected the studies of several institutions and organizations. In fact, T.R The Ministry of Education aimed at having the students grasp the vitality of nourishment; hence, added the subjects conveying this to the curriculums of different grades started from the 1st to the others (Gürel and others, 2004). Also in the program "Struggling and Controlling Obesity in Turkey" prepared by the Ministry of Health Fundamental Healthcare Services Head Office, the strategies like informing teachers-students about balanced diet and physical activities, carrying out the audits of food services at schools effectively and maintaining the standardization (Ergül and Kalkım, 2011).

For several studies fulfilled in term of struggling obesity, the focus is the roles of teacher in the process. Teachers are to guide the students both their knowledge and behaviors. According the research of Rossiter, Glanville, Taylor and Blum (2007) prospective teachers' knowledge, attitudes and behaviors related to eating habits could pose a hindrance for the future generation's healthy eating habits acquisition. Thus, as it is the case for different facets of education, it is an undeniable fact that teachers have an essential mission of having the students acquires healthy eating habits. For this reason, it is compulsory to arrange the education of teachers in accordance with reflecting these behaviors.

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