



THE SCHOOL MILK PROJECT CONDUCTED IN PRIMARY SCHOOLS AND PARENTS' POINT OF VIEWS ON THE ISSUE

İlköğretim Okullarında Uygulanan Okul Sütü Projesi ve Ebeveynlerin Konu Hakkındaki Görüşleri

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Abstract

Aim: In this study, our objective was to find out the opinion of the parents, whose children participated in the school milk project program (SMP), and to determine the acceptability of this program in the society.

Materials and Methods: Ultra-heat treated (UHT) milk (200ml) was distributed to 6,5 million students in the second half of the 2013-2014 school year by the ministry. This study was conducted to find out the opinion of the families of children, who participated in the SMP in Malkara / Tekirdağ. For this purpose, a questionnaire containing 13 questions was used.

Results: The educational status of parents were as follows: 1.47% illiterate; 35.8% primary school graduates; 12.9% secondary school graduates; 28.7% high school graduates and 20.79% university graduates. A total of 73.16% of children have breakfast on a regular basis. Regarding the weekly milk consumption of children; 6.38% did not drink milk at all; 37.32% 1-3 days, 19.64% 4-6 days and 36.6% used to consume milk every day. 91.49% of parents were informed about SMP and 99.51% stated that they filled a permission form. 83.63% of parents believed that SMP was necessary and 16.37% believed that it was not necessary. 98.36% of parents gave a positive answer and 1.64% gave a negative answer to the question about the contribution of SMP to the growth of children. 66.78% of the participating parents believed and 33.22% did not believe that milk is protective against diseases in older ages.

Conclusion: The School Milk Project gained families' acceptance and contributes to the healthy and balanced nutrition of children from the low-income segment.

Keywords: School milk project, nutrition of school-age children, cow milk.

Öz

Amaç: Bu çalışmada, okul sütü programı (OSP)'na dahil olan çocukların ailelerinin uygulama hakkındaki düşüncelerini öğrenmek ve toplumdaki kabul edilebilirliğinin belirlenmesi amaçlanmıştır.

Materyal ve Metot: Bakanlık tarafından 2013-2014 eğitim döneminin ikinci yarısında 6.5 milyon öğrenciye, 200 ml ultra yüksek ısılı (UHT) süt dağıtımı yapılmıştır. Bu çalışma 2014 yılında Tekirdağ, Malkara ilçesinde yaşayan ve OSP' ne dahil olan çocukların ailelerinin, OSP hakkında düşüncelerini öğrenmek için 13 soruyu içeren anket yöntemi uygulanarak yapılmıştır.

Bulgular: Ailelerin eğitim durumları; %1.47 okur-yazar değil, %35.8 ilkökul mezunu, % 12.9 ortaokul mezunu, % 28.97 lise mezunu, % 20.79 üniversite mezunudur. Çocukların %73.16'sı sabahları kahvaltı etmektedir. Çocuklarda haftalık süt tüketimine bakıldığında, hiç süt tüketmeme %6.38, 1-3 gün tüketme %37.32, 4-6 gün tüketme %19.64, her gün tüketme %36.6 oranında süt tüketmişlerdir. Ailelerin %91.49'u OSP hakkında bilgi sahibidir ve %99.51'i form doldurularak izinlerinin alındığını belirtmişlerdir. OSP gerekliliği konusunda velilerin %83.63'ü gerekli, %16.37'si gerekli olmadığını düşünmüştür. Veliler OSP çocuğun büyümesine katkısı sorusuna %98.36'sı evet, %1.64'ü hayır cevabı vermiştir. OSP anketine katılan ailelerin %66.78'i sütün ileri yaşlarda kronik hastalık önleyici olduğunu düşünürken, %33.22'si soruya hayır cevabı vermiştir.

Sonuç: Okul sütü projesinin aileler tarafından kabul görmekte ve gelir düzeyi düşük ailelerde çocukların sağlıklı ve dengeli beslenmesine katkıda bulunmaktadır.

Anahtar Kelimeler: Okul sütü projesi, okul çağı çocukların beslenmesi, inek sütü.

INTRODUCTION

Growth is the most important indicator of child health. It starts in the intrauterine period and continues until the end of puberty. It is characterized by cell proliferation and

contributes to the body height and volume as a result of the biological maturation and functionality of the cells and tissues¹. Sufficient protein, calorie, calcium, phosphor, and Vitamin D should be supplied for normal cell growth. Micronutrients like iron, zinc, and

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copper are also required for healthy growth. Also, genetic factors, hormones, nutrition, chronic diseases, and growth of tissues and environmental factors play an important role in children's growth and shape the individual differences. Unlike adults, children need more energy and protein for the construction of the new tissues².

Growth and development are the most important indicators of adequate and balanced nutrition. The determination of age-appropriate growth is possible with the help of body weight and height measurements assessed according to the age and sex of children. The first sign of inadequate protein and calorie intake in children is the growth and development retardation. Children, who cannot get sufficient and balanced nutrition, are prone to diseases and become often sick³. They may have problems of absenteeism and low school success rates.

Milk and dairy products are among the basic foodstuffs, which are necessary for the nutrition of children of growing-age. Milk has protective properties against obesity, hypertension, certain cancer types, osteoporosis, and dental health. SMP is a program, which is reaching large populations to protect and improve public health. It plays an important role especially in the prevention of health problems originating from vitamin and mineral deficiency, in the decrease of chronic diseases and the establishment of healthy eating habits. Supplementation of a rich variety of food, maintenance of healthy body weight, balanced consumption of carbohydrates and fiber-rich food, restriction of fat and sugar consumption and supplementation of adequate amounts of vitamins and minerals are recommended for

healthy nutrition in school-age children. The daily calcium intake should be sufficient for a healthy bone and tooth development in children⁴. Therefore, daily consumption of 2-3 glasses of milk or yogurt and cheese (size of a matchbox) is recommended. Students, who skip breakfast, are not able to get approximate 25%-30% of the daily required protein and calories. Malnutrition is more common in boys and girls (40.3% and 32.1% respectively) as a result of inadequate calorie intake⁵. Whole-fat cow milk and dairy products are rich in carbohydrates, high-quality protein, fat, and several vitamins and minerals^{6, 7}.

SMP had been already implemented worldwide in 85 countries and is still on-going in 36 countries. In Turkey, it was also officially introduced in the school year 2011-2012⁸. In this study, our objective was to find out the opinion of the parents, whose children participated in the SMP program, and to determine the acceptability of this program in the society.

MATERIALS and METHODS

In our country, in the context of SMP, 200 ml UHT milk was distributed by the ministries three days a week in the second half of the school year 2013-2014. In our study, we used the convenience sampling method. The questionnaires were filled using a face-to-face interview method. The study sample consisted of families of children, who were participating in SMP in the primary schools in Malkara / Tekirdağ. 667 individuals were randomized and 56 of them were excluded from the study, as the provided information was unreliable. Thus 611 individuals completed the study. A 13-item questionnaire was used for the collection of the parents' opinion. The following characteristics were asked and recorded: The

age, monthly income, number of children, educational status, breakfast habits of children, weekly milk consumption of children, knowledge about the school milk, source of the information about SMP, presence of a permission requested by the school, the necessity of SMP, opinion on the contribution of milk to the growth of children, opinion on the preventive features of milk against obesity, cardiovascular diseases, and diabetes. Then the results of the questionnaires filled by 611 parents were evaluated. PASW Statistics 18 for Windows software package was used for the statistical analysis. The descriptive variables were analyzed with the Chi-square test and $p < 0.05$ was considered as statistically significant. The results of the statistical analysis were given as descriptive statistics in tables. The written consent of the families and the approval of the local committee were obtained before the start of the study (29.03.2013;750).

RESULTS

The mean age of the participating parents was 36 years, the mean monthly income was 1350 Turkish lira (TL) (200-10,000) and the mean number of children was 3 (1-6). Regarding the educational status, 1.47% of them were illiterate, 35.8% primary school graduates, 12.9% secondary school graduates, 28.97% high school graduates and 20.79% university graduates. 73.16% of children had breakfast in the morning and 9.8% did not have breakfast at all, while 17.02% had breakfast 1-2 times/week.

The data related to the weekly milk consumption was as follows: 6.38% did not consume milk; 37.32% consumed milk 1-3 days/week; 19.64% 4-6 days/week and 36.6% every day (Table 1). 91.49% of the parents

were informed about SMP. They stated that they were informed by teachers, television, newspaper, and sources on the internet. 99.51% of the parents reported that the school management asked for their permission with a written permission form. Three families had forgotten this form and had not returned to the school.

Table 1. Educational status of families, breakfast and weekly milk consumption in children

Educational status of families	%	Weekly milk consumption of children	%	Regular breakfast in the mornings	%
Illiterate	1.47	No milk consumption	6.38	Never	9.82
Primary school graduates	35.84	1-3 days consumption	37.32	Once or twice a week	17.02
Secondary school graduates	12.93	4-6 days consumption	19.64	Every morning	73.16
High school graduates	28.97	Everyday consumption	36.66		
University graduates	20.79				

83.63% of the parents believed that SMP was necessary and 16.37% believed that it was not necessary. The positive answer to SMP declined with the increase in the educational level. According to their statements, the reason was their distrust in the distributed milk product. We also asked whether SMP had a positive contribution to the growth of children. 98.36% of the parents gave a positive answer, while 1.64% gave a negative answer. 66.78% of the participating families believed that milk was useful in the prevention of diseases in older ages. The remaining 33.22% believed the opposite (Table 2). The rate of the parents, who believed that milk did not have any preventive feature against chronic diseases, was the highest in the illiterate group (66.7%).

We found a statistically significant correlation between the monthly income of the families and the weekly milk consumption of the children ($p=0.000$). In the group with a monthly income higher than 2500 TL, the milk

consumption was 4-6 days/week, while it was 1-3 days/week in the group with a monthly income less than 1000 TL (Table 3). The rate of the non-milk-consumers declined with the increase of the income level of the parents and the weekly milk consumption increased

significant with the increase of the family's income. The number of children in the family had a negative effect on milk consumption and if the family had 3 children or more, the daily milk consumption declined significantly ($p=0.001$).

Table 2. Family opinions about the school milk program (SMP).

Answer	Do you know about SMP?	Did the school management get your consent to participate in the school milk project?	Is SMP required?	Does milk contribute to the growth of your child?	Does milk have a preventive effect on chronic diseases in later years?
Yes (%)	91.49	99.51	83.67	98.36	66.78
No (%)	8.51	0.49	16.37	1.64	33.22

DISCUSSION

SMP for school-age children has an important role in the prevention of obesity, hypertension, and osteoporosis, which have a gradually increasing incidence in the world and our country and decrease of the health cost. SMP aims to increase milk consumption in the school-age and to get them to adopt correct eating habits. SMP, which aims to increase milk consumption in school age and to get children to adopt correct nutrition habits, was successfully introduced in Holland, Denmark, Czech Republic, China, Portugal, and Sweden. In Portugal, SMP was implemented to prevent malnutrition in children and get them to adopt correct eating habits. After 10 years, it was found out that the mean height of the youngsters at the same age increased approximate 3 cm^{3, 9}.

Table 3. Monthly income of families and weekly milk consumption.

Monthly income of families	Weekly milk consumption (day/week)
>2500 TL	4-6
<1000 TL	1-3

According to the data of the Turkish Statistics Agency (TÜİK) (2013), the rate of illiteracy in the group older than 15 years is 5.8%. The same rate was 1.47% in our study sample. In

addition, the rate of university graduates was 20.79% in our study, while the same rate was 11% in the TÜİK report. Our results was consistent with the fact that Tekirdağ is ranked number two among all cities regarding the literacy rate.

In children, who do not have breakfast in the morning, the school success rate declines as a result of weakness and dizziness depending on prolonged fasting, and the mental activities such as attention and learning skill impair due to lack of sufficient energy¹⁰. In our study, 73.16% of children had breakfast on a regular basis, while 9.8% did not have breakfast at all. In a study conducted in the rural areas of India, the rate of the regular breakfast habit was 42.8% among children between the age of 10-15 years ($n=802$)⁵. This low rate compared to our study might depend on factors related to the economic, educational, cultural, and rural area characteristics. In a study conducted in Istanbul between 2005 and 2006, the rate of the regular breakfast habit was 89% in children between the age of 6-14 years ($n=239$)¹¹. In another study, 12,301 children between the ages of 6-10 years were evaluated and it was found out that regular breakfast on a daily basis was 69% and 64.9% among boys and girls respectively³.

In our study, 6.38% of children did not drink milk at all; 37.32% drink milk 1-3 days/week, 19.64% 4-6 days/week and 36.6% used to consume milk every day. In a study conducted by Nahcivan, 2.9% of children did not consume milk at all and the rates of the occasional milk consumption, daily consumption of one glass milk, daily consumption of two glasses or more milk were 31.8%, 45.2%, and 20.1% respectively. In Mersin, the investigators surveyed 278 primary school students and found out that rates of milk consumption every day, 4-5 days per week, 3 days per week and 1 day per week were 53.9%, 15.9%, 16.2%, and 14% respectively¹². It is known that milk consumption has a positive effect on the breakfast habit. Although Nicklas suggested that breakfast habit has a positive effect on milk consumption behavior, there was no statistical relationship in our study¹³.

The results of our survey showed that 83.63% of the parents considered SMP as necessary and 16.37% as not necessary. In a study, which was conducted in Isparta with 359 parents of students and assessed their approach to school milk program, 82.17% of parents had positive and 8.36% had negative opinions, while 9.47% did not know¹⁴. The general approach of families participating in SMP was positive and negative comments depended on the distrust of the distributed milk product.

In our study, there was a statistically significant correlation between the monthly income of the families and weekly milk consumption of their children. The rate of the non-milk-consumers declined with the increase of the income level of the parents and the weekly milk consumption increased significant with the increase of the family's income. The weekly

milk consumption declined with the increase in the number of children in the family, particularly in families with 3 or more children. In a study conducted in the city center of Kahramanmaraş, there was a positive correlation between the educational status of the head of the family, number of the children, income level and the milk consumption preferences¹⁵.

The majority of the families, who accepted to participate in the survey, were well informed about SMP and had a positive opinion for the necessity of the project and milk's contribution to the growth of children. 98.36% of the parents said "yes" and 1.64% said "no" to the question about the contribution of milk to the growth of children. However, only 66.78% of parents had a positive opinion on the preventive effects of milk for chronic diseases in older ages, which indicated that they were not sufficiently informed on this topic.

In a study conducted in Tanzania, the investigators determined that children started to like milk thanks to SMP, their health status improved, school attendance increased, SMP led parents to buy milk and milk sales increased in the related region¹⁶.

CONCLUSION

In this study, we observed that the school milk project was welcomed by the families and contributed to the healthy and balanced nutrition of children particularly in families with low income. Our results related to the breakfast habit and milk consumption rate were mostly consistent with the results of similar studies conducted in Isparta and Mersin. In our country, SMP contributed to the supplementation of the protein, energy, and vitamin-mineral requirements in children, who

came from the poor socioeconomic families and were not able to drink milk in a regular basis. SMP is a useful program to get the children to adopt milk consumption habits, which contributes to healthy and balanced nutrition and healthy growth and development. Ministry of Education and Ministry of Health should organize briefing programs related to the benefits of milk and school milk project for the families.

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