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Milk Consumption Habits of Nursery School Children and their Mothers

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ABSTRACT

In this study, it was aimed to determine the milk consumption habits of mothers and children, which is a significant factor for healthy development. Milk is privileged because it is the first food for newborn babies and the basic food for children, the elderly, and the sick. The study material consisted of data obtained from mothers residing in Sanlıurfa province with an online questionnaire form. In this questionnaire form, questions about demographic characteristics, anthropometric parameters and milk consumption habits of mothers and children were included. When the milk consumption habits of the mothers participating in the survey were analysed, it was determined that 70.5% of them consumed milk occasionally. When the distribution of the answers given to the way of milk supply was analysed, 47% of them reported that they bought milk from the market. When the body mass indexes of the mothers were analysed, it was found that the majority (51%) were in the healthy weight and 80.4% of the children were in the underweight. When it was asked whether the mothers and children had allergic diseases, it was understood that the majority did not have allergic diseases. 76.5% of the mothers who participated in the survey stated that they talked to their children about milk-drinking habits. When the milk consumption habits of children were analysed, it was found that 52.9% of them consumed milk daily. As a result, the mothers' talking to their children about milk-drinking habits suggested associations with the frequency of milk consumption by children ($p<0.05$).

Keywords: Milk, Milk consumption, consumption habits.

Introduction

Habits affect children's cognitive, emotional, social and physical development at later ages. Healthy eating habits in children are one of the important habits that are acquired in the early period and affect their growth and development (Neyzi et al., 2008; Onat and Ertem, 1995). Healthy nutrition is a way of eating that aims to protect and improve health by taking the nutrients needed by the body in a balanced way. It can lead to health problems such as obesity and vitamin deficiency in children who do not have a healthy diet (WHO, 2000). Animal foods have a privileged position with their content in healthy nutrition. Milk is privileged because it is the first food for newborn babies and the basic food for children, the elderly, and the sick. Milk differs in human nutrition with its protein, calcium, vitamin B12, vitamin D, phosphorus, and other mineral contents. Milk is an important food source, especially for children in the growth and development period (Maijala, 2000). In the results of the Turkish Health and Nutrition Survey, it is reported that individuals aged 15 years and over consume 12.5 litres of milk and 41.1 kilograms of yoghurt per person per year (TURKSTAT, 2021). Göncü and Gökçe (2021) reported that 74.5% of primary school children responded that they like milk because it is tasty and healthy.

The results of the "Turkiye Childhood (2nd-grade primary school students) Obesity Survey" show that 38% of 2nd-grade primary school children drank low-fat and/or full-fat milk every day, and 31% drank low-fat and/or full-fat milk 4-6 days a week (Göncü et al., 2021a). The average milk consumption per capita in Turkiye is 146 litres per year, of which 23 litres is drinking milk and the rest is other dairy products. It is reported that 1 litre of milk meets almost all of the calcium and phosphorus daily needs of a child aged 10-12. It is also stated that 1 litre of milk meets all the daily vitamin B2 (riboflavin) and vitamin B12 (cobalamin) needs of children and half of the daily protein (Karakaya and Akbay, 2013; Onurlubaş and Çakırlar, 2016). However, there are also differences between regions in terms of these figures. It is reported that the lowest consumption is in Central Anatolia with 161.7 grams and the highest consumption is in Southeastern Anatolia with 227.2 grams.

The diet of children is generally influenced by the family (Akdoğan and Balcı, 2022). The growth and development of the child is affected by the genetic characteristics, hormones and nutritional status of the mother and father (Gözen, 2010). Nutrition closely affects growth until adulthood, especially in infancy. Malnutrition of the child and gastrointestinal system diseases such as diarrhoea may cause pause or slowdown in growth rate (Kobak and Pek 2015).

Family members are the first role models of children and children acquire many habits by observing and imitating the behaviours of family members. The behaviours exhibited in the family shape children's values, beliefs and lifestyles. Therefore, families have an important role in influencing children's habits. Feeding habits start in the home of the mother and after the birth of the child, with the transition to breastfeeding or bottle feeding. Eating habits

in children start to form early in life and continue throughout the rest of the child's life. However, children's more distinct and permanent eating habits are usually shaped during the period from infancy to primary school age. During this period, children begin to develop food preferences and eating habits. In order to shape children's eating habits, it is of great importance to offer healthy food options and exhibit exemplary behaviours during this period. It is important for families to encourage their children to prefer healthy eating. Preschool children cannot make food choices for healthy and adequate nutrition due to their characteristics (they take family members as an example, they respond to foods with certainty: they do not like milk, vegetables and fruits, they prefer raw vegetables, soft meats, plain foods, they express their reactions against the family or the environment by not eating). Children in this period should be given nutritionally appropriate foods that will play an active role in their growth by their parents and they should gain positive eating behaviours (Tedik, 2017).

Although many studies have been conducted to date, these studies have been limited to different regional age groups in terms of scope and content. Experts recommend increasing daily milk consumption and many studies have been carried out on this subject (WHO, 2000). The results of studies conducted with more specific and homogenous groups can provide more detailed data. Reliable research data are needed to identify nutritional problems especially in the early ages and to develop effective, useful and sustainable solutions.

The aim of this study was to determine the milk consumption habits of mothers and their children in Sanlıurfa.

Material and Method

The study material consisted of data obtained from mothers residing in Sanlıurfa province with an online questionnaire form (Google Form). In this questionnaire form, questions about demographic characteristics, anthropometric parameters (height and weight) and milk consumption habits of mothers and children were included. The data obtained in the study were analysed using SPSS 21.0 V. package software. Survey data were analyzed using descriptive statistics and Chi square (χ^2) test. A value of $p<0.05$ was considered to be statistically significant for Chi square test. While analysing the anthropometric parameters of mothers and children, mean and standard deviation were used as descriptive statistics. Body mass indexes (BMI) of mothers and children were calculated using anthropometric data. The body mass index (Body weight (kg) / Height^2 (m^2)), which provides the classification of obesity, was made according to the classification of the World Health Organization (WHO, 2000) (Yetkiner et al., 2014).

Results and Discussion

The demographic characteristics of the participants are given in Table 1.

Table 1. Demographic characteristics of the participants

Characteristics	**Number (n)**	**Percentage (%)**
Age of Mother		
25-30	10	19.6
31-35	13	25.5
36-40	16	31.4
41-45	11	21.6
≥ 46	1	1.9
Education Status		
Uneducated	4	7.8
Primary School	6	11.8
Middle School	3	5.9
High School	4	7.8
University	33	64.7
Postgraduate	1	2.0
Number of Children		
Only child	11	21.6
2 children	17	33.3
3 children and above	23	45.1

Working Pattern		
Working	29	56.9
Not working	22	43.1
Allergic disease in the mother		
There is	6	11.8
None	43	84.3
Unknown	2	3.9
Age of the child		
1-3 years	9	17.6
4-6 years old	32	62.7
7-9 years old	7	13.8
≥ 10 years	3	5.9
Allergic disease in a child		
There is	7	13.7
None	43	84.3
Unknown	1	2.0

When the age of the mother was analysed, it was found that 19.6% were between 25-30 years old, 25.5% were between 31-35 years old, 31.4% were between 36-40 years old, 21.6% were between 41-45 years old, and 1.9% were 46 years old or older. When the educational status of the mother was analysed, it was found that 7.8% were uneducated, 11.8% were primary school graduates, 5.9% were middle school graduates, 7.8% were high school graduates, 64.7% were university graduates and 2% were postgraduate graduates. It is seen that the mothers who have 3 or more children among the participants in the study are dense (45.1%). According to the answers given, it was determined that 56.9% of the mothers were working and 43.1% were not working. When the age of the children was analysed, it was found that 17.6% had children aged 1-3 years, 62.7% had children aged 4-6 years, 13.8% had children aged 7-9 years, and 5.9% had children aged 10 years and older. When it was asked whether the mothers and children had allergic diseases, it was found that the majority did not have allergic diseases.

Anthropometric parameters (height and weight) of mothers and children were measured and descriptive statistics (mean and standard deviation) are given in Table 2.

Table 2. Anthropometric parameters of mothers and children

Characteristics	**Mean**	**Standard deviation**
Mother's weight (kg)	66.9	9.8
Mother height (cm)	162.1	7.0
Child weight (kg)	20.1	7.3
Child height (cm)	109.3	19.2

According to Table 2, the mean weight of the mother was 66.9 with a standard deviation of 9.8, the mean height of the mother was 162.1 with a standard deviation of 7.0, the mean weight of the child was 20.1 with a standard deviation of 7.3, the mean height of the child was 109.3 with a standard deviation of 19.2.

The body mass indexes of the mothers and children who participated in the survey are given in Table 3.

Table 3. Body mass indexes of mothers and children

	Body mass index of mothers (kg/m^2)		**Body mass index of children (kg/m^2)**	
BMI	**Number (n)**	**Percentage (%)**	**Number (n)**	**Percentage (%)**
≤ 18.5 (Underweight)	0	0.0	41	80.4
18.5-24.9 (Healthy weight)	26	51.0	9	17.6
25-29.9 (Overweight)	18	35.3	1	2.0
≥ 30 (Obese)	7	13.7	0	0.0

When the body mass indexes of the mothers given in Table 3 are analysed, it is seen that the majority are in the healthy weight (51%). When the body mass indexes of the children were analysed, it was seen that the majority of them were in the underweight (80.4%). The body mass index is one of the criteria used to evaluate nutritional status (Sarria et al., 2001). The reference values used for BMI vary between countries, in different regions of a country and even in different races living in the same region (He et al., 2000; Cole et al., 1995; Hammer et al., 1991). In addition, the wide age limits evaluated in the studies (such as 6-8 years) increase the variation. Karakaş et al. (2004) reported that the mean BMI values for primary school students were 16.65 in rural girls and 16.78 in boys; 17.41 in urban girls and 16.92 in boys. It is understood that the mean BMI values reported by Göncü et al. (2021b) for primary school students are 8.8 in rural girls and 18.6 in boys; 17.1 kg/m in central region girls and 17.8 in boys.

The characteristics related to the milk consumption frequency and milk supply type of the mothers are given in Table 4.

Table 4. Characteristics of mothers' milk consumption frequency and milk supply method

Characteristics	**Number (n)**	**Percentage (%)**
Frequency of milk consumption by the mother		
Nothing	6	11.8
Monthly	1	2.0
Occasionally	36	70.5
Weekly	5	9.8
Diary	3	5.9
Milk supply method		
Market	24	47.0
Grocery Store	3	5.9
Familiar	13	25.5
Order	11	21.6

The diet of children is influenced by the family (Akdoğan and Balcı, 2022). Nutritional habits are also important because they affect the adult period, especially in infancy. In this study, when the milk consumption habits of the mothers participating in the survey were analysed, it was determined that 70.5% of them consumed milk occasionally. When the distribution of the answers given to the milk supply method was analysed, 47% of them reported that they bought milk from the market.

The characteristics related to the duration of breastfeeding and preferred milk are given in Table 5.

Table 5. Characteristics related to duration of breastfeeding and preferred milk

Duration of breastfeeding	**Number (n)**	**Percentage (%)**
Did not receive	3	5.9
40 days	1	2.0
3 months	4	7.8

6 months	5	9.8
12 months	12	23.5
24 months	26	51.0
Preferred milk*		
Cow	45	95.7
Goat	2	4.3

*Non-milk drinkers were not included.

The majority of the children of the mothers who participated in the survey received breast milk for 24 months (51.0%). The preferred milk for children is mostly cow's milk (95.7%).

The characteristics related to the reasons for milk consumption and the factors affecting milk consumption habits are given in Table 6.

Table 6. Distribution of reasons for milk consumption and factors affecting milk consumption habits

Characteristics	**Number (n)**	**Percentage (%)**
Reasons for consuming milk*		
To increase calcium and vitamin intake	22	46.8
For growth and development	19	40.4
For bone health	3	6.4
To support protein intake	2	4.3
Habit	1	2.1
Factors affecting milk consumption habits*		
Price	9	19.1
Food intolerance or allergy	8	17.0
Recommendations of health specialists	30	63.9

*Non-milk drinkers are not included.

According to Table 6, 46.8% of the participants stated that they consume milk to increase calcium and vitamin intake and 40.4% stated that they consume milk for growth and development. In addition, it was determined that the most important factor affecting the habit of milk consumption was the recommendation of health specialists with 63.9%.

Table 7. Findings regarding the mothers' talking to their children about milk-drinking habits and the frequency of milk consumption by children

Characteristics	Frequency of milk consumption by the child							
	Does not consume		Occasionally		Weekly		Daily	
Talking about the mother's habit of drinking milk	Number (n)	Percentage (%)	Number (n)	Percentage (%)	Number (n)	Percentage (%)	Number (n)	Percentage (%)
Yes	4	7.82	8	15.7	0	0.0	27	52.9
No	3	5.87	8	15.7	1	2.0	0	0.0
χ^2=19.24 p=0.000								

Among the mothers who participated in the survey, 76.5% talked to their children about milk-drinking habits. When the milk consumption habits of children were analysed, it was found that 52.9% of them consumed milk daily. Results show a significant association between the mothers' talking to their children about milk-drinking habits and the frequency of milk consumption by children ($p<0.05$). It is very important to support the development of healthy eating behaviour in children and to recognise possible nutritional problems before the habits are established. Because the habits acquired in the

first years of life affect the health, growth and development of the child throughout his/her life. Therefore, families should be aware of healthy eating and nutritional problems in children.

Conclusion

As a result of study, the mothers' talking to their children about milk-drinking habits was found to be associated with the frequency of milk consumption by children ($p<0.05$). Although 74.5% of primary school children in Turkiye answered that they like milk because it is tasty and healthy, it is understood that mother's speeches cannot be ignored. Eating habits in children are generally shaped during the period from infancy to primary school age. In order to shape children's eating habits, it is important to offer healthy food options and to show exemplary behaviours during this period. It is important for families to make speeches to encourage their children to prefer healthy eating.

References

Akdoğan R, Balcı S., 2022. Okul öncesindeki çocukların beslenme alışkanlıklarının büyüme ve gelişmeleri üzerine etkisi. Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi, 15(2): 186-196.

Cole, T.J., Freeman, J. V., & Preece, M. A. (1995). Body mass index reference curves for the UK, 1990. Archives of disease in childhood, 73(1): 25-29.

Göncü, S. and Gökçe, G. 2021. Adana ili düşük gelirli aile gruplarında süt tüketim, süt temin ve değerlendirme şekilleri. ISPEC 7th International conference on Agriculture, Animal Sciences and Rural Development, 18-19 September 2021, 313-324.

Göncü, S., Gökçe, B., Gökçe, G., 2021a. Adana ili kırsalı ailelerinde ilkokul öğrencileri süt tüketim alışkanlıkları. 3rd International Conference on Food, Agriculture and Veterinary 1 (1),

Göncü, S., Gökçe, B., Gökçe, G., 2021b. Rural and central district primary school students bodymass ındex and milk consumption habits. International Journal of Scientific and Technological Research, 7(6):17-24.

Gözen, D. 2010. Çocuk sağlığının göstergesi: büyümenin izlenmesi. Koç Üniversitesi Hemşirelikte Eğitim ve Araştırma Dergisi (HEAD), 7(1): 5-13.

Hammer LD, Kraemer HC, Wilson DM, Ritter PL, Dornbusch SM., 1991. Standardized percentile curves of body-mass index for children and adolescents. Am J Dis Child, 145: 259-263. 5.

He Q, Albertson-Wikland K, Karlberg J. (2000). Populationbased body mass index reference values from Göteburg, Sweden: birth to 18 years of age. Acta Paediatr, 89: 582-592

Karakaş S, Okyay P, Önen Ö, Ergin F, Beşer E. (2004). Aydın ili ilköğretim okulları öğrencilerinde oturma yüksekliği ile boy, ağırlık ve beden kitle indeksi ilişkisi. İnönü Üniversitesi, Tıp Fakültesi Dergisi, 11(2):73-77.

Karakaya, E., Akbay, C. (2013). İstanbul ilinde tüketicilerin süt ve süt ürünleri tüketim alışkanlıkları. Uludağ Üniversitesi Ziraat Fakültesi Dergisi, 27(1), 65-78.

Kobak, C. ve Pek, H., 2015. Okul öncesi dönemde (3-6 yaş) ana çocuk sağlığı ve anaokulundaki çocukların beslenme özelliklerinin karşılaştırılması. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 30(2): 42-55.

Maijala K. 2000. Cow milk and human development and well-being. Livestock Production Science, 65: 1-18

Neyzi, O., Günöz, H., Furman, A., Bundak, R., Gökçay, G., Darendeliler, F., Baş. F., 2008. Türk çocuklarında vücut ağırlığı, boy uzunluğu, baş çevresi ve vücut kitle indeksi referans değerleri. Çocuk Sağlığı ve Hastalıkları Dergisi, 51:1-14.

Onat T, Ertem B. 1995. Age at menarche: relationship to economic status, growth rate in status and weight, and skeletal and sexual maturation. Am J Human Biol, 7: 741-750.

Onurlubaş E, Çakırlar H (2016). Tüketicilerin süt ve süt ürünleri tüketimini etkileyen faktörlerin belirlenmesi üzerine bir araştırma. Çankırı Karatekin Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 7(1): 217-242.

Sarria A, Moreno LA, Garcia-Llop LA, Fleta J, Morellon MP, Bueno M. Body mass index, triceps skinfold and waist circumference in screening for adiposity in male children and adolescents. Acta Paediatr 2001; 90: 387-392.

Tedik, S. E. 2017. Fazla kilo/obezitenin önlenmesinde ve sağlıklı yaşamın desteklenmesinde hemşirenin rolü. Türkiye Diyabet ve Obezite Dergisi, 1(2): 54-62.

TURKSTAT, 2021. Turkish Statistical Institute. https://data.tuik.gov.tr/Bulten/Index?p=Cig-Sut-Uretim-Istatistikleri-2022-49699

WHO (World Health Organisation) Obesity: preventing and managing the global epidemic. Report of a WHO consultation. 2000; 894: i-xii, 1-253.

Yetkiner, A. A., Uzel, İ., Kuter, B., Kaya, F., Ertuğrul, F., & Ersin, N. (2014). Çocuklarda diş çürüğü ve vücut kitle indeksi ilişkisinin incelenmesi. *J Pediatr Res*, *1*, 142-146.