Üçüncü Basamak Bir Hastanede Çocukların Büyümelerine Etkili Faktörlerinin Retrospektif Değerlendirilmesi

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Amaç:
Büyüme ve gelişmenin en hızlı olduğu 0–5 yaş arası dönem, sağlıklı gelişimi olumsuz etkileyen çok sayıda etmene karşı oldukça duyarlı bir dönemdir. Bu çalışmada 5 yaş altındaki hastaların beslenme öyküleri, büyüme parametrelerini belirlemek ve bu parametreleri etkileyebilecek faktörlerin tespiti amaçlandı.

Gereç-yöntem:
Çalışmaya 6 aylık dönemde hastanede yatırılarak tedavi edilen 5 yaş altındaki çocuklar dahil edildi. Yaş, cinsiyet, boy ve vücut ağırlıkları (persantilleri), yatış tanıları, kronik hastalık ve hastanede yatış öyküsü, aşılanma durumu, ebeveyn yaşları, ebeveynlerin eğitim durumu ve ortalama gelirleri ile anne sütü alım süreleri ve ek gıdaya geçiş zamanları ile ilgili verileri geriye dönük olarak kaydedildi.

Bulgular:
Çalışmaya ortanca yaşları 8 ay (1-59 ay) olan 344 hasta (%54,7erkek) dahil edildi. Doğum sonrası hastaların %97,1'i anne sütü ile beslenmeye başlanmışken, çalışma sırasında bir yaştan büyük olanların %18'i 1 yıldan kısa süre emzirilmişti. Hastaların 6. ayda tek başına anne sütü ile beslenme oranı %30,8'di. Hastaların annelerinin eğitim durumu ve ailelerin aylık gelir düzeyleri Türkiye ortalamasından düşük bulundu. Anne-baba yaşı, ebeveyn eğitim düzeyi ve ailenin aylık geliri ile kilo ve boy persantilleri arasında ilişki saptanmadı. Anne yaşı ve annenin eğitim düzeyi ile tek başına anne sütü ile beslenme süresi arasında ilişki bulunmazken, ailenin aylık geliri arttıkça tek başına anne sütü alım süresini uzadığı tespit edildi ($p<0.05$). Anne yaşı, annenin eğitim düzeyi ve ailenin aylık geliri ile toplam anne sütü ile beslenme süresi arasında ilişki saptanmadı. Hastaların tek başına anne sütü alımı süreleri arttıkça kilo ve boy persantillerinin istatistiksel olarak arttığı tespit edilirken ($p<0.05$) toplam anne sütü alım süresi ile kilo ve boy persantil değerleri arasında ilişki bulunmadı.

Sonuç:
Ülkemizde erkek ve kadın arasındaki eğitime katılım farklılığı halen devam etmektedir. Ailenin aylık geliri tek başına anne sütü ile beslenme süresi üzerine etkilidir. Anne sütü alım süresi büyüme parametreleri üzerine en etkili faktördür.

Keywords:*Büyüme, emzirme, süt çocuğu, yetersiz beslenme*

Introduction:

Growth follow-up of a child is the best and easiest indicator for assessing the health status. Child growth may be influenced by environmental factors as well as genetic factors. Inadequate food intake and frequent infections are the two most important causes of growth retardation in many developing countries. Knowledge of normal growth and development of children is essential for identifying deviations from normal conditions and preventing diseases. During the first five years of life, children are highly sensitive against factors that adversely affect development. Monitoring of the growth and development of children is an important component of primary health care services (1). It is an important issue that the records including measurements of height and weight in health institutions are completely kept in order to make the follow-up of patients complete. The aim of this study was to determine the nutritional history and growth parameters of patients under 5 years of age and the factors that might affect these parameters in a tertiary care hospital.

Material-methods:

The study included children who were hospitaized under 5 years of age at a tertiary care pediatric hospital in a six-month period. Data regarding age, sex, residence city, height and wieght measurements and percentiles, reason for hospitalization, comorbid disease, previous hospitalization history, vaccination status, age of parents, education levels of parents, average monthly familiy income, smoking exposure history, duration of total breastfeeding, and the duration of exclusive breastfeeding were recorded retrospectively. Weight for age and height for age percentile values calculated by the curves of Neyzi et al was used to determine the growth status of patients (2). The patients were classified according to ≤25 percent, 25-50 percent, 50-75 percent and ≥75 percent in order to make comparisons in binary analyzes.

Data were entered to a database and statistical analyses were performed using IBM SPSS Statistics, Version 16.0. The variables were investigated using visual and analytical methods (Kolmogrov-Simirnov/Shapira-Wilk test) to determine whether or not they are normally distributed. Descriptive analyses were presented using means ± standard deviations for normally distributed variables and as medians (minimum-maximum) for the non-normally distributed and ordinal variables. The Chi-square test or Kruskal Wallis test were used to compare twoe groups. A p-value less than 0.05 was considered as statistically significant result.

Results:

Three-hundred and forty-four patients (54.7% male) under five-years of age were included in study. One hundred and eighty-eight (54.7%) of the patients were male and 156 (45.3%) were female. The median of patients age was 8 months (range; 1-59 months) and mean age was 15,5±16 months. Most common hospitalization reasons were acute lower respiratory tract infection by 47% (n=162), soft tissue infection by 13.3% (n=46), acute fever without a focus by 8.1% (n=28), respectively.

According to gestational week, 11% of the patients were born <37 weeks, 86.3% were born 37-42 weeks, and 2.7% were born ≥42 weeks. Seven patients (2%) had a history for delivery at home. Fifty-three percent (n=179) of the patients were born by normal spontaneous vaginal route and 23.4% (n=75) had kinship between their parents. The median number of living siblings of patients was 1 (range:0-7) and mean sibling number was 1.17±1.3. Eigtheen (5.4) patients had a history of sibling death. According to the vaccination program, 96.2% (n=329) of the patients were fully vaccinated according to their age. Twelve patients had incomplete vaccines for their age, while one patient had no vaccines. The age distribution and the educational level of the parents, and the average monthly family incomes are shown in Table 1. The distribution of patients according to body weight and height percentiles is shown in Figure 1. No significant relationship was found between the age and education level of the

mother, the age and education level of the father and the weight and height percentiles (p>0.05). In addition, no statistically significant difference was found between the monthly average income of the family and the weight and height percentiles of the patients (p> 0.05). There was no statistically significant relationship between the number of living siblings and weight and height percentile values (p> 0.05). Seventy percent (n=243) of the patients included in the study had data on tobacco exposure and 45.7% (n=111) of these patients had history for tobacco exposure with least one person living with home. There was no significant correlation between the weight and height percentile values of the patients and tobacco exposure (p> 0.05). While 3.8% (n=13) of the patients had comorbid disease, 38.1% (n=130) had a previously history of hospitalization for various reasons. While there was no significant relationship between body height percentiles and previously hospitalization history (p> 0.05), body weight percentiles were significantly lower in patients with a previously hospitalization history than those without hospitalization history (p <0.05).

Eighty-eight percent of the patients data about breastfeeding were achieved from medical records while 66.9% and 43.3% of the patients had records about vitamin D prophylaxis and iron prophylaxis, respectively (Table 2). While 97.1% of the mothers were initiated breastfed after the delivery, 18% of those older than 1 years were breastfed for less than 1 year. However, the rate of exclusively breastfeeding at the 6 months of age was 30.8% in patients older than 6 months during the study. There was no correlation between age of parents, parental education level, family income and weight and height percentile. There was no correlation between age and educational level of mother and the duration of exclusive breastfeeding (p>0.05), but the duration of exclusive breastfeeding was positive correlated with the monthly family income (p=0,018). It was found that wieght and hight percentages were statictically positive correlated with exclusive breastfeeding duration (p=0.046 and p=0.021), but there was no correlation with total breastfeeding duration. There was no statistically significant difference between age of onset of complementary feeding and weight and height percentile values (p> 0.05). As the education level of the mother increased, the duration of vitamin D usage was found to be longer (p <0.001).

Discussion

The immune system uses a broad nutritional requirement during infection to combat the pathogen, and infections can result in a reduction in the positive effect of nutrition on child growth (3) In our study, which included patients under 5 years of age, the most common diagnosis was lower respiratory tract infections and the majority of patients were younger than 1 year of age. Approximately one third of the patients had been hospitalized previously for various reasons and their weight percentiles were significantly lower. It has been reported that educational level of both parents has an effect on the growth parameters of children (4). In a study conducted in our country, it was found that weight and height percentiles do not differ according to gender and education of the mother(5). In a study conducted in Nepal, maternal age at birth, birth interval, father's education level, socioeconomic status and monthly income of the family, bottle feeding,total breastfeeding time, exclusive breastfeeding time, and time to start complimentary food have been reported to be determinants of acute malnutrition in children under 5 years of age (6). In our study, there was no correlation between age, education level of the parents and the average monthly income of the family and the weight and height percentiles of the patients.

According to data from Turkey, it is known that approximately 97% of mothers started breastfeeding after birth. It has been shown that 58% of babies are exclusively breastfed in the first two months of life, but it has decreased over the years. Although the number of babies who have never been breastfed is very low, it is reported that ready-made formula is used extensively in the first months of life. Although breastfeeding initiation widespread in Turkey,

exclusively breastfeeding habit is not at the desired level [7,8]. According to World Health Organization 2005 data, breastfeeding rates of young, unmarried mothers with low educational level and low monthly income were found to be lower (9). In a study conducted in our country, it was found that the education level, age and income of the familiy did not affect the duration of exclusively breastfeeding (10). In our study, there was no correlation between maternal age and education level and duration of exclusively and total breastfeeding. However, as the monthly income of the family increased, the duration of exclusively breastfeeding was prolonged. It was found that exclusively breastfeeding duration and weight and height percentages of the patients were directly proportional, but total breastfeeding duration and age of onset of additional food were not correlated with weight and height percentile values

In conclusion, lower respiratory tract infections are the most common cause of hospitalization in childhood, and infections that require hospitalization cause poor weight gain. In our study group, the difference in participation to education between men and women still continues. Monthly income of the family maybe effective on the duration of breastfeeding alone. Parental education level, age of parents and monthly average income of the family may not affect the growth parameters, but the duration of exclusively breastfeeding alone is the most effective factor on growth parameters.

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Table 1. Age distribution of parents and educational levels of parents

Study variable	Data	n (%)
Mother age		
<18 y	7	2.1
18-25 y	102	30.4
25-35y	188	56.1
≥35 y	38	11.3
Father age		
<18 y	1	0.3
18-25 y	33	10
25-35 y	206	62.2
≥35 y	91	27.5
Educational level of mother		
Illiterate	13	5,9
Elementary school graduate	67	74
High school graduate	18	14.2
Graduated from a Universty	13	5.9
Educational level of father		
Illiterate	4	1.8
Elementary school graduate	132	60.3
High school graduate	64	29.2
Graduated from a Universty	19	8.7
Aylık Ortalama Gelir		
≤MW	74	33.3
MW-1.5 fold of MW	98	44.1
1.5 fold of MW-2 fold of MW	29	13.1
>2 fold of MW	21	9.5

MW: minimum wage

Table 2. Duration of breastfeeding, time to start complementary food , duration of vitamin D and iron prophylaxis

Study variable	n	(%)
Exclusively breastfeeding duration	304	88,4
None	10	2,9
0-1 month	41	11,9
1-6 month	56	16,3
6 month	95	27,6
6-12 month	11	3,2
Still exclusively breastfeeding	91	26.5
Total breastfeeding duration	306	89
None		
0-1 month	10	2.9
1-6 month	9	2.6
6-12 month	27	7.8
>12 month	26	7.6
Still breastfeeding	49	14.2
	185	53.8

Time to start complementary food	303	88
<6 month	33	9.3
At 6th month	119	34.5
6-12 month	14	4
>12 month	4	1.1
Not yet started	133	38.6
Duration of vitamin D prophylaxis	230	66.9
None	18	5.2
0-1 month	2	0.6
1-6 month	12	3.5
6-12 month	43	12.5
Still taking prophylaxis	155	45.1
Duration of iron prophylaxis	149	43,3
0-6 month		
6-12 month	13	3.7
>12 month	17	4.9
Not yet started	4	1.1
	115	33.4

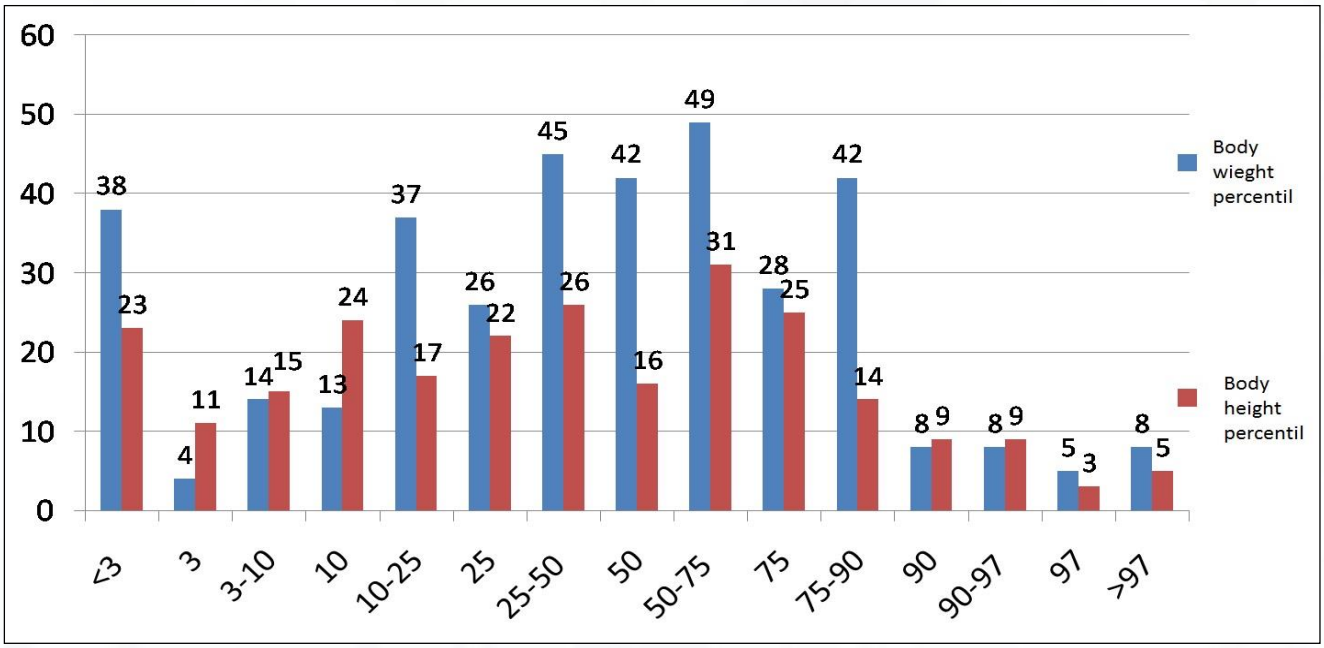

Figure 1. Distribution of weight and height percentiles of patients