

The Effects of Breast Feeding Periods on Childhood Diseases in Manisa Region

MANİSA YÖRESİNDE ANNE SÜTÜ İLE BESLENMENİN ÇOCUKLUK ÇAĞI HASTALIKLARI ÜZERİNE ETKİSİ

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Summary

This research has been done in Manisa region to state the percentage of the children who are fed only with breast milk; and to determine the relation of breast feeding with the frequency of 'respirator' infections, gastroenteritis, urinary infections and rickets in their first six months.

Among 3302 children of age between 0-15 who admitted to Celal Bayar University Faculty of Medicine Outpatient Department of Pediatrics in 1996, 632 of them with reliable nutritional history from their families have been included in this research. Only 543 of them had received only breast milk, and the percentage of this on the 2nd, 3rd, 4th and 6th months has been determined respectively as 15.83%, 19.15%, 16.20% and 15.83%. 584 children had received supplementary food in addition to breast milk, and the percentage has been set as for 3 months 9.07%, for 12 months 13.01% and for 18 months 10.61%.

In the group of 0-3 years age, the children who received breast milk for 6 months and the ones who were never breast fed were compared in relation to the above mentioned illnesses in their first six months.

Finally, in our region the percentage of the children who were only breast fed was the highest in the 3rd month (19.15%) and this period has been determined as 12th month (13.01%) for the ones who were breast fed with supplementary food.

With regard to illnesses, while the negative effect of not being exclusively breast fed has been seen for respiratory infections; for gastroenteritis and rickets no important difference has been observed between exclusively breast fed and formula fed. However, for urinary infections on the contrary of what was expected, it has been clarified that the infection is seen more frequently in the ones who were breast fed.

Key Words: Exclusively breast fed, Childhood diseases, Supplementary food

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Özet

Bu çalışma Manisa yöresinde yalnız anne sütü ile beslenen, anne sütüne ilave olarak ek gıda alan çocukların oranını saptamak, ayrıca bunlarla hiç anne sütü almayanların solunum yolu enfeksiyonu, gastroenterit, idrar yolu enfeksiyonu, ricketisle olan ilişkilerini belirlemek amacıyla yapılmıştır.

Araştırmaya Celal Bayar Üniversitesi Tıp Fakültesi Çocuk Sağlığı ve Hastalıkları Anabilim Dalı polikliniklerine 1996 yılı içinde başvuran 0-15 yaş arası 3302 çocuktan iyi beslenme anamnezi veren 632 çocuk dahil edilmiştir. Bunların içinden sadece 543 tanesi yalnız anne sütü alma süresini belirtebilmiş bunların oranı da 2, 3, 4 ve 6 ay için sırasıyla %15.83, %19.15, %16.20 ve %15.83 olarak saptanmıştır. Anne sütüne ilave olarak ek gıda alma zamanı tam olarak ailesinden öğrenilen 584 çocukta ise bu oran 3 ay için %9.07, 12 ay için %13.01, 18 ay için ise %10.61 olarak saptanmıştır.

Çalışmada ayrıca 0-3 yaş grubunda 6 ay anne sütü alanlarla hiç almayanların belirtilen hastalıklarla ilişkileri kıyaslanmıştır. Sonuçta yöremizde yalnız anne sütüyle beslenen çocukların oranı en yüksek 3. ayda (%19.15) görülürken bu süre anne sütüne ilave ek gıda alanlarda 12 ay (%13.01) olarak belirlenmiştir.

Hastalıklar yönünden, solunum yolu enfeksiyonunda anne sütü almamanın olumsuz etkisi görülürken; gastroenterit ve ricketisle anlamlı fark gözlenmemiş idrar yolu enfeksiyonunda ise beklenenin aksine anne sütü alanlarda daha sık enfeksiyon görüldüğü saptanmıştır.

Anahtar Kelimeler: Anne sütü, Çocuk hastalıkları, Ek gıda

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Children are most sensitive to infections during the newborn period and infancy. It is a known fact that breast milk which is a natural food, ready and sterile at any desired time has got the feature of

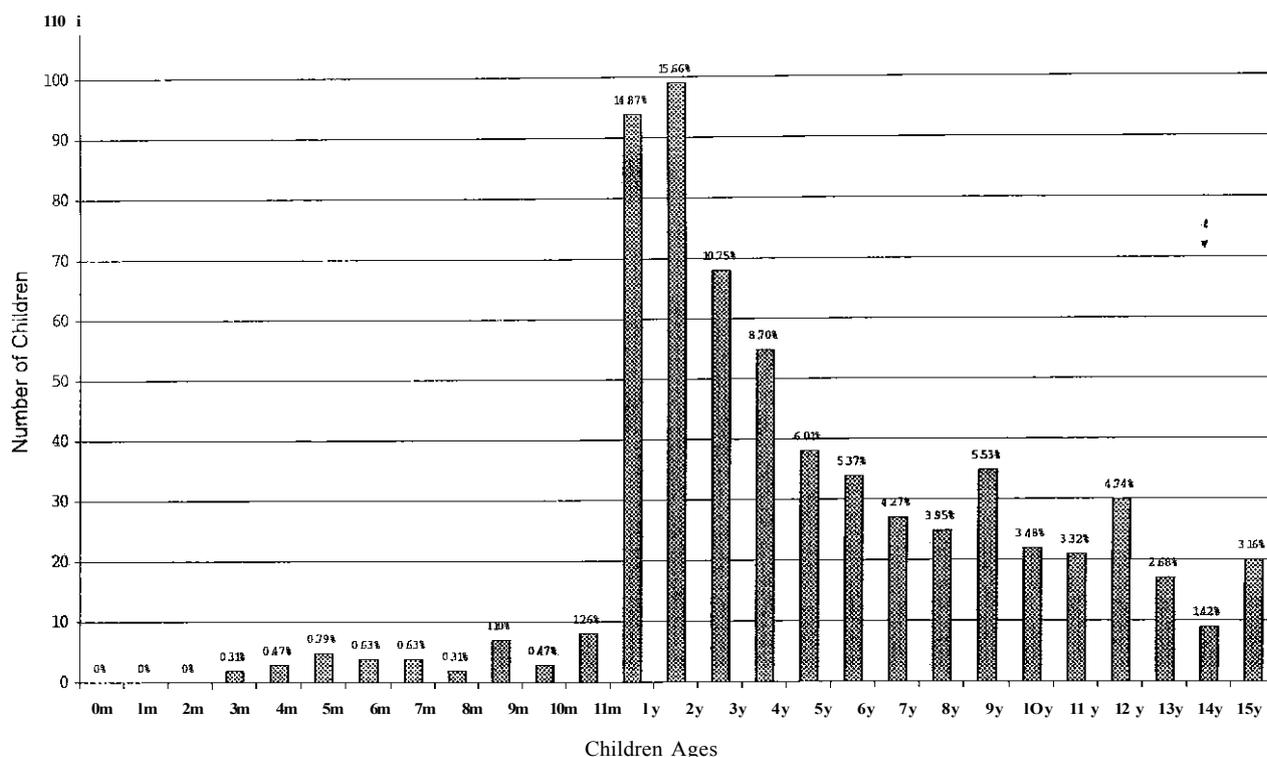


Figure 1. Distrubution of ages among 632 children.

protection against especially respiratory infections, gastrointestinal system infections, sepsis and urinary system infections (1-3).

In a study which was carried out by Saltuk et al., it has been revealed that the majority of the infants who suffer from respiratory and gastrointestinal system infections have never been breast fed (4). Besides, it has been stated that there is a difference between the infant who have never been breast fed and the ones who have supplementary food in the early periods as an addition to breast milk and also that the continuity of the protective effect of breast feeding along with supplementary food.

The main reason of rickets, which is observed in the group of childhood period, is the lack of vitamin D and insufficient calcium and phosphorus minerals intake. Due to its little content of vitamin D, Ca⁺⁺ and P⁺, breast milk cannot maintain optimal bone development and mineralisation (1,5,6).

In the studies that have been carried out in our country, although the majority of the mothers are willing to breast feeding they start supplementary food in the early periods (2,7).

According to another study in our country which evaluated the correlation between the mothers' educational status and starting time of supplementary food for their babies, mothers with higher education give supplementary food at normal time and though the others delay for a little period (8).

This study has been done in Manisa region to ascertain the percentage of the children who are only breast fed to determine the relation of the frequency of respiratory infections, gastroenteritis, urinary infections and rickets in their first six months of life, with the children who has never been breast fed and the ones who have breast fed only for 6 months.

Material and Methods

Among 3302 children aged between 0-15 who admitted to Celal Bayar University Outpatient Department of Pediatrics Clinic in 1996, reliable nutritional history was taken only from the parents of 632 children. The age distribution for 632 children is given in Figure 1- Table 1 and 48 children

Table 1. Distrubution of ages among 632 children

| Children Ages | Numbers of Children |
|---------------|---------------------|
| 0 month | 0 |
| 1 month | 0 |
| 2 months | 0 |
| 3 months | 2 (0.316%) |
| 4 months | 3 (0.474%) |
| 5 months | 5 (0.791%) |
| 6 months | 4 (0.632%) |
| 7 months | 4 (0.632%) |
| 8 months | 2 (0.316%) |
| 9 months | 7 (1.107%) |
| 10 months | 3 (0.474%) |
| 11 months | 8 (1.265%) |
| 1 year | 94 (14.873%) |
| 2 years | 99 (15.664%) |
| 3 years | 68 (10.759%) |
| 4 years | 55 (8.702%) |
| 5 years | 38 (6.012%) |
| 6 years | 34 (5.379%) |
| 7 years | 27 (4.272%) |
| 8 years | 25 (3.955%) |
| 9 years | 35 (5.537%) |
| 10 years | 22 (3.481%) |
| 11 years | 21 (3.322%) |
| 12 years | 30 (4.746%) |
| 13 years | 17 (2.689%) |
| 14 years | 9 (1.424%) |
| 15 years | 20 (3.164%) |

Table 2. Age distrubution of 48 children who never breast fed

| Age (years) | Numbers | Percents |
|-------------|---------|----------|
| 0/ 12 | 0 | 0% |
| 3 / 12 | 1 | 2% |
| 10/ 12 | 1 | 2% |
| 1 | 5 | 11% |
| 2 | 9 | 19% |
| 3 | 6 | 13% |
| 4 | 4 | 9% |
| 5 | 2 | 4% |
| 6 | 5 | 11% |
| 7 | 1 | 2% |
| 8 | 4 | 8% |
| 9 | 3 | 5% |
| 10 | 0 | 0% |
| 11 | 1 | 2% |
| 12 | 1 | 2% |
| 13 | 1 | 2% |
| 14 | 4 | 8% |
| 15 | 0 | 0% |
| Total | 48 | 100% |

Table 3. Duration of only breast feeding among 543 children

| Months | Number (%) |
|----------|-------------|
| 0 | 51 (9.39%) |
| 1 | 72 (13.2%) |
| 2 | 86 (15.83%) |
| 3 | 104(19.15%) |
| 4 | 88 (16.2%) |
| 5 | 34 (6.4%) |
| 6 | 86 (15.83%) |
| 7 | 9(1.9%) |
| 8 | 5 (0.9%) |
| 9 and up | 8 (1.2%) |

who have never been breast fed in Figure 2- Table 2.

In this study, the number of the children who have only been breast fed and the ones who have been fed with supplementary food in addition to breast milk are 543 and 584 respectively. The diseases which have been examined in their first six months of life in relation to breast milk taking period have been determined as respiratory infections, gastroenteritis, urinary infections and rickets. Statistical observations were made by using chi-square test in SPSS V6.1 computer program.

Results

In this research, the highest rate was found as 19.15% in the ones who have been exclusively breast fed for the period of 3 months among 543 children who could certainly state the period of breast milk. It was followed successively by 4 months with 16.20%, 2 and 6 months with 15.83% (Figure 3 - Table 3).

As it can be seen in Figure 4 - Table 4, feeding rates of 584 children, whose supplementary food taking periods in addition to breast milk have been fixed, and determined as 12 months with 13.01%, 18 months with 10.61% and 3 months with 9.07% consecutively. The ones who have never had breast milk and the ones who have had only breast milk for 6 months have been considered with regard to the diseases in their first six months of life which have been mentioned in 0-3 age group children and the findings have been given as means in Table 5.

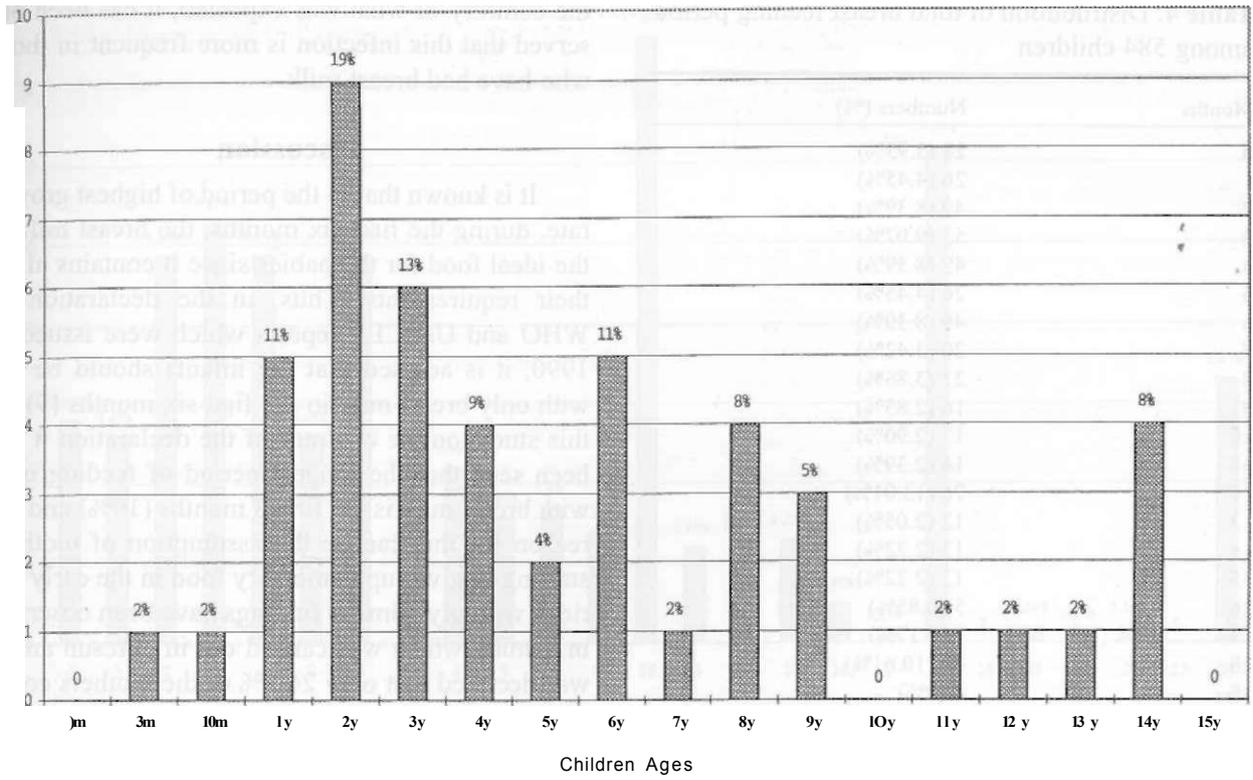


Figure 2. Age distribution of 48 children who never breast fed.

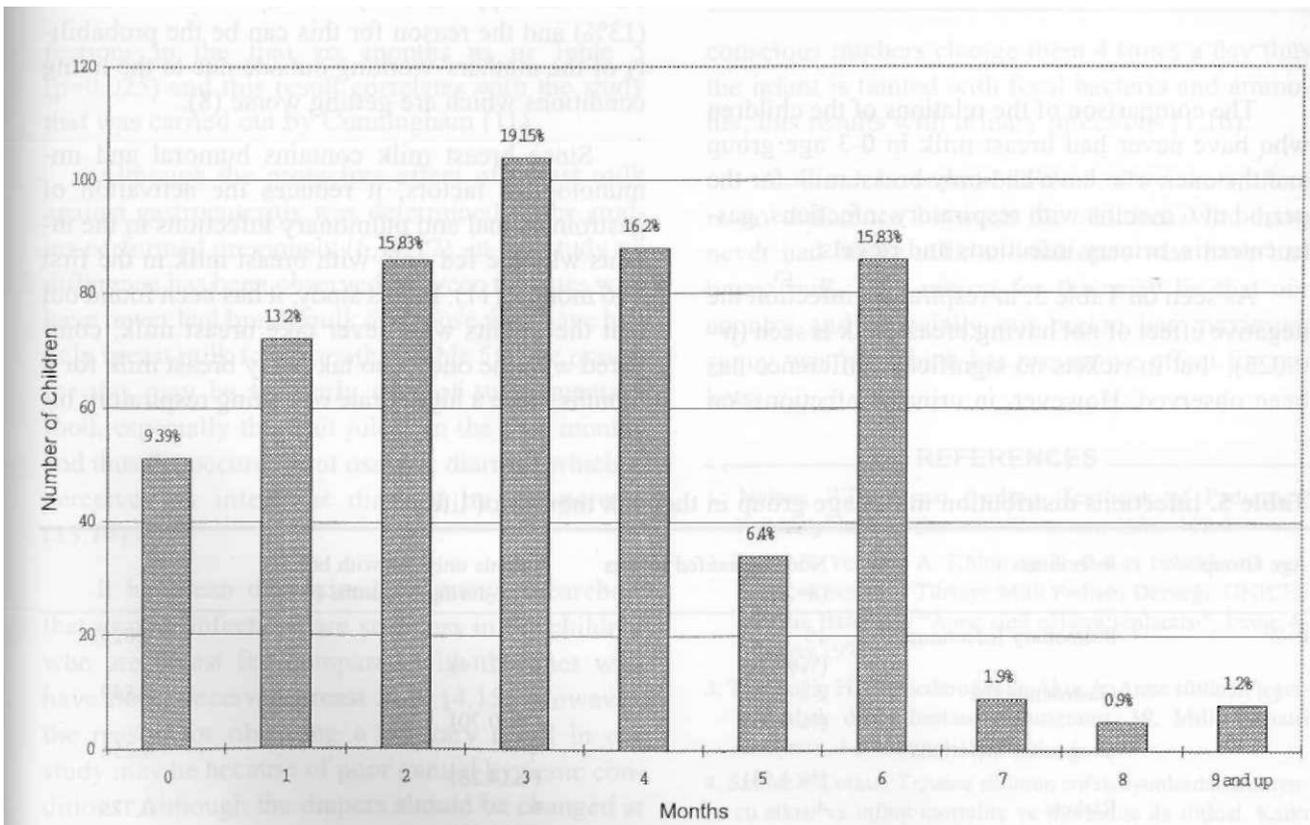


Figure 3. Duration of only breast feeding among 543 children.

Table 4. Distrubution of total breast feeding period among 584 children

| Months | Numbers (%) |
|-----------|-------------|
| 0 | 28 (3.93%) |
| 1 | 26 (4.45%) |
| 2 | 49 (8.39%) |
| 3 | 53 (9.07%) |
| 4 | 49 (8.39%) |
| 5 | 26 (4.45%) |
| 6 | 49 (8.39%) |
| 7 | 20 (3.42%) |
| 8 | 22 (3.86%) |
| 9 | 16(2.85%) |
| 10 | 17 (2.90%) |
| 11 | 14 (2.39%) |
| 12 | 76(13.01%) |
| 13 | 12 (2.05%) |
| 14 | 13 (2.22%) |
| 15 | 13 (2.22%) |
| 16 | 5 (0.85%) |
| 17 | 1 (0.17%) |
| 18 | 62 (10.61%) |
| 19 | 0 (0%) |
| 20 | 2 (0.34%) |
| 21 | 1 (0.17%) |
| 22 | 2 (0.34%) |
| 23 | 0 (0%) |
| 24 and up | 33 (5.63%) |

The comparison of the relations of the children who have never had breast milk in 0-3 age group and the ones who have had only breast milk for the period of 6 months with respiratory infections, gastroenteritis, urinary infections and rickets.

As seen on Table 5, in respiratory infection the negative effect of not having breast milk is seen ($p=0.025$), but in rickets no significant difference has been observed. However, in urinary infections, on

the contrary of what was expected, it has been observed that this infection is more frequent in those who have had breast milk.

Discussion

It is known that in the period of highest growth rate, during the first six months, the breast milk is the ideal food for the babies since it contains all of their requirements. Thus, in the declaration of WHO and UNICEF reports which were issued in 1990, it is advised that the infants should be fed with only breast milk in the first six months (9). In this study, on the contrary of the declaration it has been seen that the longest period of feeding only with breast milk is the first 3 months (19%) and the reason for this can be the assumption of mothers starting to give supplementary food in the early periods wrongly. Similar findings have been observed in a study which was carried out in Giresun and it was declared that only 26.9% of the mothers could give exclusively breast milk more than 3 months (10).

In our region the highest rate of giving breast milk with supplementary food is seen in 12 months (13%) and the reason for this can be the probability of the mothers' working outside due to the living conditions which are getting worse (8).

Since breast milk contains humoral and immunological factors, it reduces the activation of gastrointestinal and pulmonary infections in the infants who are fed only with breast milk in the first 4 -6 months (11). In this study, it has been found out that the infants who never take breast milk, compared with the ones who take only breast milk for 6 months, have a higher rate of getting respiratory in-

Table 5. Infections distribution in 0-3 age group in their six months of life

| Age Group | Infections | None breast fed infants (n=22) | Infants only fed with breast milk during 6 months (n=28) | p |
|-----------|-----------------------|--------------------------------|--|-------|
| 0 -3 | Pulmonary Infections | 19 (%86.36) | 16 (%57.14) | 0.025 |
| | Gastroenteritis | 2 (% 9.09) | 3 (% 10.70) | 0.849 |
| | Urogenital Infections | 1 (% 4.54) | 4 (% 14.28) | 0.254 |
| | Rickets | 4 (%18.18) | 6 (%21.42) | 0.775 |

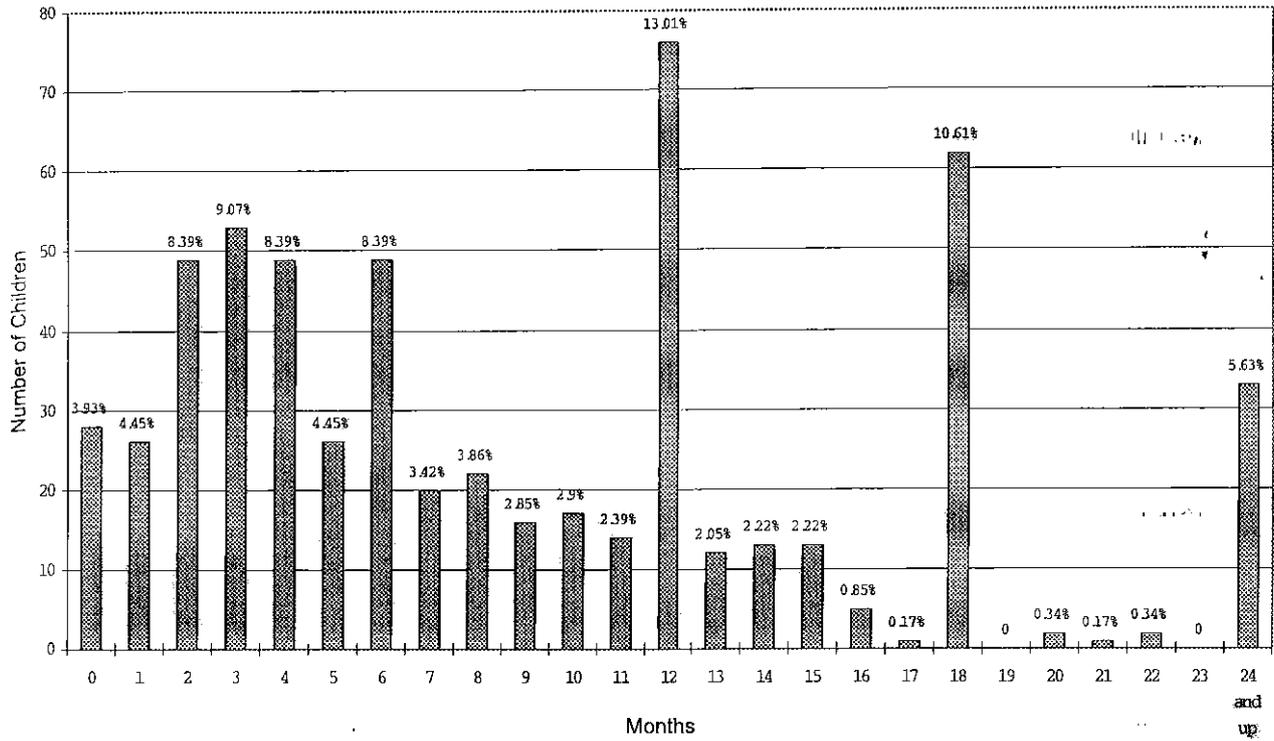


Figure 4. Distribution of total breast feeding period among 584 children.

fections in the first six months as in Table 5 ($p=0.025$) and this result correlates with the study that was carried out by Cunningham (11).

Although the protective effect of breast milk against gastroenteritis was determined in the studies performed previously (6,11,12), in our study no difference has been observed between the ones who have never had breast milk and those who have had only breast milk for 6 months (Table 5). The reason for this may be the early start of supplementary food, especially the fruit juices in the first months and thus the occurrence of osmotic diarrhea which is perceived as infectious diarrhea by the parents (13,14).

It has been determined by many researchers that urinary infections are seen less in the children who are breast fed compared with the ones who have never received breast milk (4,15). However, the reason for obtaining a contrary result in our study may be because of poor genital hygienic conditions. Although the diapers should be changed at least 6-8 times a day in our country, even the most

conscious mothers change them 4 times a day thus the infant is tainted with fecal bacteria and ammonia, this results with urinary infections (1,16).

As it can be seen in Table 5; for rickets, there is no difference between the children who have never had breast milk and the ones who have had breast milk. The reason for this may be that our country and especially our region has maximum sunny weather which has preventive effect for rickets.

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