

Mothers' Attitudes Toward Feeding Twin Babies in the First Six Months of Life: A Sample From Sakarya, Turkey

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Abstract

Background: It is stated in the literature that a mother's breast milk is sufficient for more than one baby.

Objectives: This descriptive study aimed to determine whether twin babies are breastfed during their first six months of life.

Materials and Methods: We studied the twin birth cases in a state hospital in Sakarya, Turkey between October 2011 and March 2013. The population of the study consisted of entire mothers who had delivered twins in the maternity ward of the hospital. The sample comprised 30 twins' mothers who agreed to participate in the study via telephone for six months. During these phone calls, they were asked how they preferred to feed their babies. The data were expressed as the mean and percentage.

Results: The average age of the mothers participating in the study was 30.17 ± 5.16 years (min. 19; max. 38). The number of mothers who stated that they had no previous experience of breastfeeding twin babies and had received training to breastfeed multiple babies was 17 (56.7%). Twenty-seven (90%) of the mothers had had caesarean sections, and half of the babies were preterm. Only a few of the babies were fed breast milk for five months. During the following months, the breastfeeding regimen was as follows: 5 babies were breastfed for a month, 5 babies for 2 months, 4 babies for 3 months, 4 babies for 4 months, 2 babies for 5 months, and no babies in the sixth month.

Conclusions: It was found that the number of twin babies who were only breastfed in the first six months of life was low. According to the literature, a mother's breast milk is sufficient for multiple babies. Mothers expecting twin babies should be informed about the benefits of breastfeeding and be encouraged to breastfeed. They should also receive training on this subject.

Keywords: Twin Babies, Breast Milk, First Six Months

1. Background

Breast milk is a wonderful source of nutrients that can meet all the nutritional requirements of babies in the first six months of life. It reduces newborn mortality and morbidity, is sufficiently rich in vitamins, minerals, protein, carbohydrates, and lipids to offer adequate growth and development, and has the advantages of bioavailability and economic viability (1-3).

Breastfeeding provides significant health benefits for babies from both single and multiple births. Many studies have shown the superiority of human milk for term and preterm infants over that of other species. The use of breast milk is associated with a decreased incidence of complications (1, 3-8); however, many babies from multiple births cannot obtain the amount of milk they need due to the inexperience of mothers in breastfeeding, inadequate knowledge, and the belief that mothers have insufficient breast milk for two babies. Nevertheless, mothers who breastfeed multiple babies have adequate amounts of

milk for each feeding. Under some circumstances, multiple babies start getting breastfed immediately, but this is directly proportional to the mother's breastfeeding success as only a few of these babies continue to get breastfed for three or four months (3, 5, 9). Although mothers have enough breast milk to feed single or multiple babies, many studies have indicated that the problems mothers have with breastfeeding depend on factors related to the baby (e.g., underweight baby, poor sucking reflex, or baby in the neonatal intensive care unit for treatment) or the mother (e.g., mother finds it too strenuous for more than one baby to breastfeed, nobody to help the mother during breastfeeding, or a lack of information about breastfeeding), while some other negative factors may also affect the breastfeeding process (e.g., mothers cannot breastfeed babies frequently, newborns are separated from their mothers, bottle-feeding, or giving pacifiers to the babies) (1, 3, 10-14).

In their study, Ostlund et al. (2010) found that about 80% of mothers of twins had breastfed for 2 months. De-

spite this rate of breastfeeding during the first months of life, a large number of the preterm and term twins were weaned before 6 months (1). Early cessation of breastfeeding in twins may occur for several reasons.

Saint et al. (1986) found that among 8 mothers of twins, all the babies were breastfed for only 2-3 months, 3 babies continued being breastfed for 6 months, and the mothers produced twice as much milk due to the increased sucking of the babies (15). Furthermore, Yokoyama et al. (2006) established that the rate of exclusive breastfeeding among twins or triplets was significantly lower than among singleton babies: 4.1% among twins or triplets, and 44.7% among singletons (16).

Statistics about mothers who breastfeed one infant are made available periodically by various institutions in Turkey; however, no statistical data about the rate of breastfeeding of multiple babies are available. There are also very few studies on multiple baby breastfeeding. The mothers of twins have sufficient potential to breastfeed their babies, but they need support from their families and health professionals.

2. Objectives

With the aforementioned requirement as a guideline, this descriptive study aimed to determine the status of breastfeeding by the mothers of twin babies in the first six months of life.

3. Materials and Methods

3.1. Design

Designed as a follow-up study, this research was conducted between October 2011 and March 2013.

3.2. Study Population and Sample Size

The universe of the study comprised mothers who delivered twins in the maternity ward of a state hospital in Sakarya, Turkey. The sample consisted of 30 twins' mothers who agreed to participate in the study via telephone over a period of six months.

3.3. Instruments

The data were collected via a questionnaire developed by the researchers after undertaking a literature review. The first part of the data collection form required demographic information and health histories (10 questions), while the second part addressed the feeding habits of the babies and their development (6 questions).

3.4. Data Collection

The data were collected from the twins' mothers who had participated in the study via face-to-face interviews in the first stage. For the next six months, the participants were contacted by phone by the researchers to evaluate the babies' growth and development.

The first face-to-face interview with the mothers was done at a convenient time for the mothers at the hospital where the deliveries had taken place. During this interview, a questionnaire, which had been prepared in line with the study, was filled out, and the mothers' consent to call them was obtained. The questionnaire continued to be filled once a month for six months. The first interview took 20 minutes, while the monthly interviews each lasted 5-10 minutes.

3.5. Ethical Considerations

The study started after written consent was obtained from the Sakarya University faculty of medicine ethical committee and education and training hospital. The participants gave their verbal consent that their data could be used for the purposes of this study.

3.6. Data Analysis

Symmetric intrauterine growth retardation results from malnutrition and persists throughout pregnancy. Malnutrition in the second trimester produces a wasted infant (i.e., low weight for height), while a stunted infant is the result of malnutrition in the last trimester. The ponderal index (PI) is an indicator of wasting and is determined by calculating the ratio of weight and length (Equation 1):

$$PI = \frac{\text{weight, g}}{\text{length, cm}^3} \times 100 \quad (1)$$

PI values of < 2.0 between 29 and 37 weeks and < 2.25 beyond 37 weeks are indicative of intrauterine fetal malnutrition. These babies are also known as disproportionate (17).

To evaluate the data, average and percentage methods were used. A variety of analyses were performed using commercial software (IBM SPSS Statistics, Version 22.0. Armonk, NY).

4. Results

The average age of the participant mothers was 30.17 ± 5.16 years (min. 19, max. 38). Eighteen (60%) of the mothers were primary school graduates and 24 (80%) did not work. The number of mothers who stated that they had no previous breastfeeding experience but had received training in

multiple baby breastfeeding was 17 (56.7%). Twenty-seven (90%) of the mothers had had caesarean sections, and half of the babies were preterm. The PI of the twin babies were 2.27 ± 0.32 points for the first babies and 2.12 ± 0.36 points for the second babies. It was found that 56.7% of the first and 46.7% of the second babies were malnourished.

Most (93.3%) of the mothers of the multiple babies had considered feeding their babies with breast milk. The mothers were asked about their opinions on the amount of breast milk required to breastfeed. Sixty percent answered "no" to the question "Is the breast milk of multiple baby mothers enough to feed their babies?" Additionally, 56% of the mothers gave the answer "one baby" to the question "How many babies can a mother's milk feed?" Most (80%) of the mothers had no information about the daily amount of breast milk they produced.

Only a couple of the twin babies were breastfed for five months. The breastfeeding attitudes of the mothers in the following months are shown in Table 1. The rate of breastfeeding in the first month was low, but it was even lower in the following months. While the rate of "breastmilk and formula food" also decreased as the months passed, only the number of babies who were "formula fed" increased.

5. Discussion

The initial six months of life are critical for an infant's health and development. Breast milk is the most useful source of nutrients that can be utilized during this period. Breastfeeding is more significant in multiple pregnancies, particularly since pre-term and low birth weight babies are frequently seen (3, 5, 18). In this study, the breastfeeding regimen of mothers with twin babies was checked over a period of 6 months.

The average age of the mothers was 30.17 ± 5.16 years. The fact that 60% of the mothers were primary school graduates and 80% were not working mirrored the characteristics of Turkish society.

Among the mothers, 56.7% stated that they had receiving training for multiple breastfeeding, which was considered a good feature. In the study by Kurt et al. (2009), it was concluded that giving mothers information in the early stages of pregnancy helps them decide how to feed their babies in a healthier and more conscious way (19). Tezergil's (2007) study tended to support our work (8).

Breastfeeding multiple babies is in principle the same as that of singletons, but there are many potential difficulties and a great deal of support is needed (20). In our study, 93.3% of the multiple baby mothers were willing to feed their babies with breast milk, which was deemed a positive behavior. The study performed by Lutsiv et al. (2013) demonstrated that those who are pregnant with

twins have less intentions of breastfeeding (21). Other studies have reported that twins receive less breast milk than single infants (16, 21, 22). These data demonstrate the need for special efforts to promote breastfeeding among mothers of multiples since the results are not at the desired levels. Despite the high number of mothers trained for baby-feeding, 50% of the mothers in our study gave incorrect answers to the questions "Is the breast milk of multiple baby mothers enough to feed their babies?" and "How many babies can a mother's milk feed?" Some of the mothers said they had no idea, which made us think that the mothers should have received education on this subject. This most important task is the responsibility of the healthcare professionals. It is necessary for the mother to have a balanced diet, to get vitamin supplements if needed, to have adequate sleep, to relax, to obtain psychological support if needed, and to receive training in baby care.

Mothers can produce enough milk for multiple babies. To do this however, they should trust in themselves, get enough rest, ensure they are well fed, get support from people close to them, and try to ensure that their baby's suction power is sufficient (6, 9, 13). Many studies have shown that milk production is based on a supply-and-demand relationship, and that the milk produced by mothers is enough for each baby (3, 4, 6, 9, 22, 23). Prosser et al. (1984) indicated that in their study, the mothers with twins produced up to 2.0 kg of milk a day. As a result, the mothers who were breastfeeding twin babies had an increase in ingestion recurrence and had twice as much prolactin secretion compared to the mothers with single babies. In light of these studies, it can be said that twins can be adequately fed with breast milk (24).

In our study, 90% of the mothers had had caesarean sections, and half of the babies were preterm, which is consistent with the literature data on multiple babies (5, 9, 11, 22). In Europe, 60% of twin births and 90% of births of triplets and more babies are premature in that they are born earlier than 37 weeks. Therefore, increasing the feeding rate of multiple babies to cope with potential difficulties in their feeding is a sentiment that is increasingly gaining importance (5).

While the average of the PI of the twins was 2.27 ± 0.32 points for the first babies, it was 2.12 ± 0.36 points for the second child. When malnutrition was considered according to the PI, it was seen that 56.7% of the first babies had malnutrition with 46.7% of the second babies being malnourished. In the study of Akman and Arif (2005), 223 babies were born weighing less than 2.5 kg. Of these, 39.9% had a low birth weight, 54.3% were term births with a PI on the border of > 2.2 , and 34.9% were preterm births with a PI of > 2.0 , thus indicating malnutrition. Most of the twins included in the sample were preterm, and the multi-

Table 1. Breastfeeding Attitudes by Baby and Month

	First Baby						Second Baby					
	1st mo	2nd mo	3rd mo	4th mo	5th mo	6th mo	1st mo	2nd mo	3rd mo	4th mo	5th mo	6th mo
Breast milk	3 (10.0)	2 (6.7)	1 (3.3)	1 (3.3)	1 (3.3)	-	2 (6.7)	3 (10.0)	3 (10.0)	3 (10.0)	1 (3.3)	-
Formula food	2 (6.7)	5 (16.7)	6 (20)	10 (33.3)	12 (40)	13 (43.3)	2 (6.7)	5 (16.7)	5 (16.7)	7 (23.3)	11 (36.7)	12 (40)
Breast milk and formula food	25 (83.3)	23 (76.7)	23 (76.7)	19 (63.3)	15 (50)	7 (23.3)	26 (86.7)	22 (73.4)	22 (73.4)	20 (66.7)	16 (53.3)	8 (26.6)
Breast milk, formula food, and weaning	-	-	-	-	1 (3.3)	7 (23.3)	-	-	-	-	1 (3.3)	7 (23.3)
Formula food and weaning	-	-	-	-	1 (3.3)	2 (6.7)	-	-	-	-	1 (3.3)	2 (6.7)
Breast milk and weaning	-	-	-	-	-	1 (3.3)	-	-	-	-	-	1 (3.3)

ple babies experienced nourishment problems (25), which is similar to our findings.

The feeding attitudes of the mothers with twin babies were observed for six months, and we found that only a couple of twin babies were breastfed for five months. In the following months, the feeding behaviors progressed as follows:

- Number of babies fed with only breast milk: 1st month: 5; 2nd month: 5; 3rd month: 4; 4th month: 4; 5th month: 2; 6th month: 0
- Number of babies fed with only baby formula: 1st month: 4; 2nd month: 10; 3rd month: 11; 4th month: 17; 5th month: 23; 6th month: 25
- Number of babies fed breast milk or formula: 1st month: 51; 2nd month: 45; 3rd month: 45; 4th month: 39; 5th month: 31; 6th month: 15
- Babies weaned: 5th month: 2; 6th month: 14

The rate of breastfeeding of twins was found to be rather low. Although the rate of breastfeeding of multiple babies was high in the beginning, very few of these babies continued to be breastfed after three or four months (13). Studies have shown that some of the mothers with multiple babies describe breastfeeding as an easier and more time-saving feeding method, while others find it difficult, troublesome, stressful, and lengthy (26). Since multiple babies are usually born with low weight and earlier than the expected delivery date, breastfeeding is more essential for them than for singletons (9). Nonetheless, the rate of breastfeeding in multiple babies is not at the desired level. Simmons et al. (2004) found that the rate of breastfeeding of single babies and twins was 52% and 40%, respectively. In another study, only 25% of twin babies and 14% of triplets were breastfed in the initial six months (10, 27).

Szucs et al. (2010) stated in their study of prematurity and low birth weight that a basic knowledge of the possibility of induced lactation, as well as the ability to make appropriate referrals for specialized support is required. Mothers who express a desire to breastfeed should be encouraged to do so through the provision of appropriate information about their options in the form of textbooks and

other educational materials regarding breastfeeding (13).

5.1. Conclusions

In our study, the rate of breastfeeding in twin babies was low. It is stated in the literature that mothers can produce sufficient breast milk for more than one baby. The mothers who had had multiple deliveries were more stressed than those who had had a single delivery. Mothers of multiple babies think that they are not adequately equipped to provide the best care for their babies both psychologically and physically. This stress is more prevalent in the families of babies who remain in the hospital after multiple high-risk deliveries. Another problem is the difficulty of building and sustaining a relationship with more than one baby. It is essential that mothers who are pregnant with twin babies be informed about the benefits of breastfeeding. They should be encouraged to follow this practice and should receive training on this subject.

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Footnote

Authors' Contribution: Nursan Cinar developed the original idea and the protocol, abstracted and analyzed the data, wrote the manuscript, and is the guarantor. Dilek Kose, Muge Alvur, and Ozlem Dogu contributed to the development of the protocol, abstracted the data, and prepared the manuscript.

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