Objective.—The purpose of this study was to assess whether providing a breastfeeding support team results in higher breastfeeding rates at 6, 12, and 24 weeks postpartum among urban low-income mothers.

Methods.—Design: A randomized controlled trial with mother-infant dyads recruited from 2 urban hospitals. Participants: Breastfeeding mothers of full-term infants who were eligible for Special Supplemental Nutrition Program for Women, Infants, and Children (n = 328) were randomized to intervention (n = 168) or usual-care group (n = 160). Intervention: The 24-week intervention included hospital visits by a breastfeeding support team, home visits, telephone support, and 24-hour pager access. The usual-care group received standard care. Outcome Measure: Breastfeeding status was assessed by self-report at 6, 12, and 24 weeks postpartum.

Results.—There were no differences in the sociodemographic characteristics between the groups: 87% were African American, 80% single, and 51% primiparous. Compared with the usual-care group, more women reported breastfeeding in the intervention at 6 weeks postpartum, 66.7% vs 56.9% (odds ratio, 1.71; 95% confidence interval, 1.07–2.76). The difference in rates at 12 weeks postpartum, 49.4% vs 40.6%, and 24 weeks postpartum, 29.2% vs 28.1%, were not statistically significant.

Conclusions.—The intervention group was more likely to be breastfeeding at 6 weeks postpartum compared with the usual-care group, a time that coincided with the most intensive part of the intervention.

KEY WORDS: breastfeeding; community intervention; low-income mothers; randomized controlled trial

interventions tested focused on 4 areas: providing psycoso-
cial support, decreasing the unpleasant symptoms of breast-
feeding (fatigue and nipple pain), providing breastfeeding
education, and assessing infant development. Community
nursing support was associated with higher breastfeeding
rates. Concomitantly, national statistics indicated that
strategies for helping low-income women breastfeed
longer were important to healthier infant outcomes.

Because we were developing interventions to extend
breastfeeding for low-income women, we hypothesized
that adding a peer counselor to the nursing involvement
would enhance the intervention in a way that would be
culturally relevant and helpful in providing psychosocial
support. Social support in the form of peer counselors
and/or lay home visits has been shown to be effective in
increasing breastfeeding rates specifically for low-income
women. The proposed intervention for this random-
ized controlled trial combined strategies that the research
team had documented as effective. This unique
intervention, known as the breastfeeding support team
(BST), was designed to include a community nurse and
a breastfeeding peer counselor. The new aspect of this
intervention is that the combination of community nurse
and peer counselor has not been previously studied in
a large sample of low-income women. The intervention
began in the hospital after birth, and continued visits and
support were provided through 24 weeks postpartum.

Previous pilot work with 41 women in the intervention sup-
ported its effectiveness in increasing breastfeeding though
16 weeks postpartum. Our hypothesis was that the BST would result in higher
breastfeeding rates among low-income urban mothers at 6,
12, and 24 weeks postpartum.

METHODS

Design

This randomized controlled trial was designed to deter-
mine the effect the BST had on breastfeeding outcomes
during the first 24 weeks postpartum. Breastfeeding
mothers of full-term infants who were eligible for WIC
(n = 328) were recruited from 2 urban hospitals. After
informed consent was obtained, baseline data were gath-
ered by the community nurse, who was masked to group
assignment. The study statistician generated random
assignments to groups by an SPSS algorithm (SPSS Inc,
Chicago, Ill), and each mother was randomly assigned to
the intervention or usual-care group by the sealed envelope
technique. Recruitment took place within 24 hours of
vaginal birth and 48 hours of Cesarean birth. Inclusion
criteria included: 1) singleton infant of at least 37 weeks’
gestation; 2) breastfeeding intention by the mother; 3)
English-speaking mother; 4) WIC-eligible family (deter-
mined by maternal self-report using the WIC questions
regarding financial information); 5) telephone access; and
6) geographically feasible address, defined as within
25 miles of the birth hospital. Exclusion criteria included:
1) craniofacial abnormalities in the infant, 2) positive drug
screen for mother or infant, and 3) neonatal intensive care
unit admission immediately after birth. Breastfeeding
subjects were identified from postpartum units of 2 urban
hospitals, Johns Hopkins Hospital, a university hospital,
and Mercy Medical Center, a community hospital, both
in Baltimore, Maryland, between October 2003 and
December 2005. Johns Hopkins Hospital has approximately
1800 total births per year; 65% are to low-income
women. Mercy Medical Center has approximately 2550
births per year; 80% to low-income women. Both of these
hospitals have excellent reputations for maternal/newborn
care, but neither hospital was officially designated as one
of the 79 baby-friendly hospitals in the United States.
Subjects were randomized in blocks of 10 within each
hospital, which resulted in 168 mother-infant dyads in
the intervention group, 160 in the usual-care group.

The study protocol was approved by the institutional
review boards of the university/hospital and the commu-
nity hospital. A data safety and monitoring board was
formed and met semiannually. The data safety and moni-
toring board evaluated adverse events and found none
attributable to the intervention.

Description of Intervention

The BST provided a prescribed program of support and
education for the first 24 weeks postpartum. The primary
objective was to increase breastfeeding rates at 6, 12, and
24 weeks postpartum. This was supported by strategies
designed to: 1) strengthen maternal competence and
commitment to breastfeeding; 2) provide parental educa-
tion regarding breastfeeding; 3) provide/identify social
support needed for continued breastfeeding; 4) emphasize
ways to decrease fatigue and breast discomfort; and
5) foster linkages to community services and pediatric
care that facilitated the maintenance of breastfeeding.

The intervention was most intensive for the first 4 weeks
postpartum, with continuing support through 24 weeks
postpartum. The intervention group received daily hospital
visits by both members of the BST until discharge. The
BST also visited the intervention group 2 times in the
home during the first week and a third visit at 4 weeks post-
partum. The intervention group received telephone support
through a scheduled telephone call (by the peer counselor)
at least every 2 weeks through 24 weeks postpartum.
Participants could reach the nurse by a pager 24 hours
day, 7 days a week (through 24 weeks postpartum).

This schedule represents the minimum number of contacts.
If, in the community nurse’s professional judgment, the
mother warranted more support than prescribed, additional
home visits or telephone support were provided. The
professional nurse judgment was considered an integral
part of the intervention, so flexibility in provision of
nursing care via home visits or nursing telephone support
based on professionally identified need was considered
important, and weekly team meetings were held in an effort
to monitor and standardize the intervention across subjects.

Home visits by the BST lasted 45 to 60 minutes. Activi-
ties included education to facilitate successful breastfeed-
ing, symptom management (fatigue, nipple pain,
depressive feelings, and anxiety), and problem solving for psychosocial issues (partner and other support, return to work or school). Infants were weighed, measured, and professionally assessed at every home visit. If any concern was uncovered, the primary care provider was notified, and mothers were encouraged to seek follow-up. Scheduled telephone support calls were provided by the peer counselor and averaged 20 minutes in duration. The calls consisted of discussing infant feeding, providing encouragement, assessing maternal well-being, and troubleshooting potential problems.

**Description of Usual-Care**

Immediately after delivery, all breastfeeding mothers admitted to each of these hospitals had access to an inpatient visit by a lactation consultant. After discharge, a hospital-based lactation consultant was also available via a telephone “warm line” (an answering machine checked at least every 24 hours). Once home, the participant could request an office visit with the lactation consultant.

**Sample Size**

This study was based on the team’s pilot work, where participants were intensively followed for 12 weeks and followed for breastfeeding status until breastfeeding was terminated. Of the 41 participants enrolled, exclusive breastfeeding at 12 weeks postpartum occurred in 45% of the intervention group and 25% of the usual-care group. We assumed that breastfeeding rates in both groups would drop by an additional 5% by 24 weeks (to 40% and 20%, respectively).
respectively). At these levels, with an alpha of 0.05 and a power of 90%, the sample size needed to detect differences would be 119 in each group. Although we had very little attrition in the pilot work, to allow for 25% attrition, 160 in each group was necessary for adequate power at 24 weeks.

Measures

Data Collection and Management

Baseline data from the mother-infant dyads were collected by the community nurse before randomization. Longitudinal data were collected by telephone or during home visits either by the research assistant (usual-care group) or peer counselor (intervention group). After recruitment, staff were no longer masked to group assignment. During the postpartum period, the protocol was developed to reduce recall bias, maximize ability to maintain a relationship with subjects, and ensure measurement of the outcome variable. Per schedule, attempts to collect data were made once every two weeks through 12 weeks and every fourth week through 24 weeks. An attempt consisting of a minimum of 3 phone calls to existing phone numbers. When phone attempts were unsuccessful, a home visit was made. Continued attempts were made to contact each participant to maximize our ability to follow these vulnerable, hard-to-reach mothers. Even if attempts were repeatedly unsuccessful, staff continued to attempt to contact participants at least once every two weeks until a final determination of the outcome variable (when stopped breastfeeding) was made.

Breastfeeding Outcome Variable

Breastfeeding was a dichotomous variable (no = 0, yes = 1) identified in relation to data points at 6 weeks, 12 weeks, and 24 weeks postpartum. To meet the definition of breastfeeding, the mothers had to have breastfed at least once within the previous 24 hours. In both recruitment hospitals, most infants were fed formula in the nursery before enrollment. Thus, there was never an opportunity to establish exclusive breastfeeding.

Computation of Breastfeeding Rates

Routine contact with the mother at prescribed intervals provided the basis for computing breastfeeding rates. When a mother reported that she had terminated breastfeeding, the breastfeeding stop date was elicited and documented. For 34 mothers (10.4%), no breastfeeding information after enrollment was obtained. These mothers were assigned as having “not breastfed at all” and coded as not breastfeeding at all data points. There were no statistically significant demographic or baseline psychosocial variable differences between these 34 mothers and the other 294 mothers who provided breastfeeding data after baseline. If other breastfeeding mothers were lost to follow-up, the stop date was imputed on the basis of the last contact. When there were missing data on breastfeeding information at a given contact point, retrospective data obtained at the next successful contact were substituted. For example, by 24 weeks, 234 mothers had stopped breastfeeding and 94 were still breastfeeding. Of these mothers, 140 (59.8%) had provided a breastfeeding stop date. For

Table 1. Sociodemographics of Participants by Group at Baseline*

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Total (N = 328)</th>
<th>Intervention (n = 168)</th>
<th>Usual-Care (n = 160)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Participants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13–17 y</td>
<td>33 (10.1)</td>
<td>20 (11.9)</td>
<td>13 (8.1)</td>
</tr>
<tr>
<td>18–19 y</td>
<td>56 (17.1)</td>
<td>26 (15.5)</td>
<td>30 (18.8)</td>
</tr>
<tr>
<td>20–24 y</td>
<td>137 (41.8)</td>
<td>70 (41.7)</td>
<td>67 (41.9)</td>
</tr>
<tr>
<td>25–34 y</td>
<td>91 (27.7)</td>
<td>48 (28.6)</td>
<td>43 (26.9)</td>
</tr>
<tr>
<td>35–43 y</td>
<td>11 (3.4)</td>
<td>4 (2.4)</td>
<td>7 (4.4)</td>
</tr>
<tr>
<td>Age, y, mean ± SD</td>
<td>23.1 ± 5.3</td>
<td>23.1 ± 5.3</td>
<td>23.2 ± 5.3</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>286 (87.2)</td>
<td>150 (89.3)</td>
<td>136 (85.0)</td>
</tr>
<tr>
<td>White</td>
<td>15 (4.6)</td>
<td>7 (4.2)</td>
<td>8 (5.0)</td>
</tr>
<tr>
<td>Latina</td>
<td>13 (4.0)</td>
<td>5 (3.0)</td>
<td>8 (5.0)</td>
</tr>
<tr>
<td>Other</td>
<td>14 (4.3)</td>
<td>6 (3.6)</td>
<td>8 (5.0)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>87 (26.5)</td>
<td>49 (29.2)</td>
<td>38 (23.8)</td>
</tr>
<tr>
<td>High school/GED</td>
<td>121 (36.9)</td>
<td>59 (35.1)</td>
<td>62 (38.8)</td>
</tr>
<tr>
<td>Some college</td>
<td>83 (25.3)</td>
<td>47 (28.0)</td>
<td>36 (22.5)</td>
</tr>
<tr>
<td>College graduate/graduate degree</td>
<td>37 (11.3)</td>
<td>13 (7.7)</td>
<td>24 (15.0)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>56 (17.1)</td>
<td>33 (19.6)</td>
<td>23 (14.4)</td>
</tr>
<tr>
<td>Single</td>
<td>261 (79.6)</td>
<td>129 (76.8)</td>
<td>132 (82.5)</td>
</tr>
<tr>
<td>Separated/divorced/widowed</td>
<td>11 (3.4)</td>
<td>6 (3.6)</td>
<td>5 (3.1)</td>
</tr>
<tr>
<td>Employment and school status during pregnancy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed and in school</td>
<td>72 (22.0)</td>
<td>35 (20.8)</td>
<td>37 (23.1)</td>
</tr>
<tr>
<td>Employed, not in school</td>
<td>139 (42.4)</td>
<td>70 (41.7)</td>
<td>69 (43.1)</td>
</tr>
<tr>
<td>In school, not employed</td>
<td>60 (18.3)</td>
<td>33 (19.6)</td>
<td>27 (16.9)</td>
</tr>
<tr>
<td>Not employed, not in school</td>
<td>57 (17.4)</td>
<td>30 (17.9)</td>
<td>27 (16.9)</td>
</tr>
<tr>
<td>Parity and breastfeeding experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primipara, no experience</td>
<td>166 (50.6)</td>
<td>82 (48.8)</td>
<td>84 (52.5)</td>
</tr>
<tr>
<td>Multipara, no experience</td>
<td>56 (17.1)</td>
<td>32 (19.0)</td>
<td>24 (15.0)</td>
</tr>
<tr>
<td>Multipara, experience, yes</td>
<td>106 (32.3)</td>
<td>54 (32.1)</td>
<td>52 (32.5)</td>
</tr>
<tr>
<td>Delivery type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaginal</td>
<td>241 (73.5)</td>
<td>122 (72.6)</td>
<td>119 (74.4)</td>
</tr>
<tr>
<td>Cesarean</td>
<td>87 (26.5)</td>
<td>46 (27.4)</td>
<td>41 (25.6)</td>
</tr>
<tr>
<td>Infants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gestational age, mean ± SD</td>
<td>38.9 ± 1.2</td>
<td>38.8 ± 1.2</td>
<td>39.1 ± 1.2</td>
</tr>
<tr>
<td>1-min Apgar score, mean ± SD</td>
<td>8.0 ± 1.4</td>
<td>8.1 ± 1.3</td>
<td>7.8 ± 1.6</td>
</tr>
<tr>
<td>5-min Apgar score, mean ± SD</td>
<td>8.9 ± 0.4</td>
<td>8.9 ± 0.4</td>
<td>8.9 ± 0.4</td>
</tr>
</tbody>
</table>

*No statistical differences among groups were found. Data are presented as n (%) or mean ± standard deviation (SD). JHU = Johns Hopkins University; MMC = Mercy Medical Center.

Table 2. Hospital and Home Visits Made by the Intervention Team

<table>
<thead>
<tr>
<th>No. of Visits</th>
<th>Hospital Visits, No. of Mothers (%)</th>
<th>Home Visits, No. of Mothers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>13 (7.7)</td>
<td>13 (7.7)</td>
</tr>
<tr>
<td>1</td>
<td>72 (42.9)</td>
<td>10 (6.0)</td>
</tr>
<tr>
<td>2</td>
<td>56 (33.3)</td>
<td>11 (6.6)</td>
</tr>
<tr>
<td>3</td>
<td>20 (11.9)</td>
<td>74 (44.1)</td>
</tr>
<tr>
<td>4</td>
<td>2 (1.2)</td>
<td>30 (17.9)</td>
</tr>
<tr>
<td>≥5</td>
<td>3 (1.8)</td>
<td>28 (16.3)</td>
</tr>
</tbody>
</table>
the remaining 94 mothers (51 in the intervention group and 43 in the usual-care group), breastfeeding status at 6, 12, and 24 weeks was imputed by using the last contact date as breastfeeding discontinuation—another conservative approach. This approach effectively assumed that those who were most difficult to follow were least likely to breastfeed. The analysis of breastfeeding rates was based on an intention-to-treat model and represents the most conservative calculations and results for breastfeeding rates at measurement intervals.

Sociodemographic, Baseline, and Psychosocial Variables

At baseline, sociodemographic, behavioral and psychosocial measures were assessed by self-report. These data were used to describe the sample, compare groups, and provide covariates for the logistic regression. Psychosocial variables (satisfaction with partner and other persons,21 depressive symptoms,22 state anxiety23) were useful in understanding the mothers, identifying patient safety issues, and determining similarity among the groups. All variables were measured with well-established instruments that had established support for reliability and validity.21–23

Analytic Strategy

At baseline, intervention and usual-care group differences in sociodemographic, behavioral, and health characteristics were compared by χ² statistics for categorical measures (age categories, race/ethnicity, education, marital status, employment, parity and breastfeeding experience, type of delivery). Analysis of variance was used to test differences in mean maternal age, infant gestational age, and infant Apgar scores between intervention and usual-care groups. Breastfeeding rates at the 3 follow-up periods were also compared with the evaluated group differences by χ² statistics.

Bivariate analysis (χ² statistics) compared breastfeeding rates with covariates, eg, age categories, race/ethnicity, education, marital status, employment, parity and breastfeeding experience, and type of delivery. Finally, multiple logistic regression, adjusting for individual covariates at baseline, was used to assess the relationship between the intervention and breastfeeding at 6, 12, and 24 weeks postpartum. The decision to include covariates in the multiple regression was based on a significant association of the covariate with breastfeeding rate (P < .05) or covariates that are traditionally associated with breastfeeding initiation rates and were gathered as study variables.

RESULTS

A total of 328 breastfeeding mothers were eligible and agreed to participate in this study (Figure). The final sample reflected a 70.2% participation rate of the 467 eligible mothers who were approached. The Health Insurance Portability and Accountability Act prevented us from collecting information on women who did not consent to participate. Table 1 presents baseline sociodemographic characteristics. Participants were predominantly young (mean, 23 years), of African American or African descent (87.2%), and single (79.6%). There was approximately equal distribution between primiparity (50.6%) and multiparity, and most women delivered vaginally (73.5%). Most (73.5%) had at least a high school education. At baseline, 64.4% described themselves as employed, and 67.7% identified themselves as having no breastfeeding experience. Table 1 displays the sociodemographic characteristics at baseline in the total sample and by group. There were no significant differences between the 2 groups on sociodemographic characteristics at baseline. Further, there were no differences in psychosocial variables at baseline (satisfaction with partner and other persons, depressive symptoms, state anxiety). There was no difference in length of hospital stay between the groups (total sample mean ± standard deviation, 2.4 ± 0.9 days).

Data were collected to describe the intervention. The modal number of hospital visits was 1 (median, 1; range, 1–8). The modal number of home visits was 3 (median, 3; range, 0–13). The mean number of telephone minutes spent with each mother was 83.6 (range, 0–256). Table 2 details the number of hospital and home visits that were made. There were 13 participants who received no hospital visits (Table 2). This occurred because the participant signed the informed consent, and hence enrolled, but asked the BST to return at another time. The participant may have been discharged earlier than usual or stated that she was too tired to complete the visit.

Table 2 shows the breastfeeding rates at a time period in total and by group. In comparing the intervention with the usual-care group, 66.7% of the intervention group vs 56.9% reported any breastfeeding at 6 weeks postpartum (P = .05). In the intervention group, the rate of

Table 3. Breastfeeding Rates at 6, 12, and 24 Weeks Postpartum

<table>
<thead>
<tr>
<th>Time</th>
<th>Total (N = 328), n (%)</th>
<th>Intervention (N = 168), n (%)</th>
<th>Usual-Care (N = 160), n (%)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 6 wk</td>
<td>202 (61.6)</td>
<td>111 (66.7)</td>
<td>91 (56.9)</td>
<td>.05</td>
</tr>
<tr>
<td>At 12 wk</td>
<td>148 (45.1)</td>
<td>83 (49.4)</td>
<td>65 (40.6)</td>
<td>.07</td>
</tr>
<tr>
<td>At 24 wk</td>
<td>94 (28.7)</td>
<td>49 (29.2)</td>
<td>45 (28.1)</td>
<td>.46</td>
</tr>
</tbody>
</table>

Table 4. Multiple Logistic Regression for Intervention Effects on Breastfeeding Rates at 6, 12 and 24 Weeks Postpartum

<table>
<thead>
<tr>
<th>Any Breastfeeding</th>
<th>Odds Ratio</th>
<th>95% Confidence Interval</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 wk</td>
<td>1.72</td>
<td>1.07–2.76</td>
<td>.03</td>
</tr>
<tr>
<td>12 wk</td>
<td>1.58</td>
<td>1.00–2.49</td>
<td>.05</td>
</tr>
<tr>
<td>24 wk</td>
<td>1.14</td>
<td>0.69–1.87</td>
<td>NS</td>
</tr>
</tbody>
</table>

*Adjusted for baseline: maternal age, race, education, parity, and breastfeeding experience.
breastfeeding at 12 weeks postpartum was higher than in the usual-care group (49.4% vs 40.6%), a nonsignificant difference. Rates at 24 weeks postpartum were almost identical, 29.2% vs 28.1%.

Table 4 displays the results from multiple logistic regression analyses for comparing breastfeeding rates at 6, 12, and 24 weeks postpartum between the 2 groups after adjusting for baseline factors associated with enhanced breastfeeding rates in the literature (maternal age, race, education, parity, and breastfeeding experience). At 6 weeks postpartum, the odds of breastfeeding in the intervention group were 1.72 times greater than those for mothers in the usual-care group \( (P < .05) \). At 12 weeks, the odds of breastfeeding were in the intervention group were 1.58 times greater than those for mothers in the usual-care group \( (P = .05) \). The differences were not statistically significant in comparing the 2 groups at 12 or 24 weeks postpartum.

**DISCUSSION**

This study demonstrated that breastfeeding rates in low-income mothers can be increased by an intensive community nurse peer counselor intervention. At 6 weeks postpartum, the intervention group had significantly higher breastfeeding rates. At 12 weeks postpartum, a greater proportion of mothers in the intervention group were breastfeeding, but group differences were not significant. At 24 weeks postpartum, breastfeeding rates in the 2 groups were similar. The findings of increased rates in this sample are similar to findings in earlier studies providing peer support to low-income breastfeeding mothers.6,7 These results are less robust than our earlier work, which demonstrate that the BST increased breastfeeding rate from birth through the first 16 weeks postpartum.15-17

The significant difference in breastfeeding rates at 6 weeks postpartum may have been related to intensity of treatment. The BST intervention was most intensive through the first weeks postpartum. During this period, mothers received frequent telephone calls and home visits. Anecdotally, mothers shared information revealing that the complexity of their lives increased between 4 and 6 weeks postpartum. Just as mothers became more difficult to reach as a result of increased life’s stressors, the intensity of the intervention decreased. The mothers may have had the desire to continue breastfeeding, but mothers told peer counselors that they had issues related to housing, returning to school or work, and lack of helper support. They often described settings that were not conducive or supportive to pumping and/or storing milk.

Healthy People 2010 included the goal of increasing breastfeeding rates so that 50% of all mothers would be breastfeeding at 6 months. Further, the goals specifically focus on the 50% target for low-income mothers.2 Even with an extensive intervention, it was difficult to meet the ambitious Healthy People 2010 goals. The significant increase at 6 weeks postpartum suggests that intensive early interventions can be effective, but is not sufficient to meet the Healthy People 2010 goals for low-income mothers. However, 6 weeks postpartum of breastfeeding, especially for this vulnerable group, is an important milestone; as literature suggests that every additional week of breastfeeding is associated with a 4% decrease in the likelihood of an illness that requires health care provider contact.24 Even 2 weeks of breastfeeding is associated with fewer infant respiratory problems and enteric problems by 6 weeks postpartum \( 25 \) and less diarrhea, coughing, and wheezing in racial minority infants.26 The plethora of advantages of breastfeeding include improved infant health, improved bonding, and maternal benefits such as fewer diagnoses of breast cancer and ovarian cancer, and better social interactions.26-30

On the basis of an extensive literature review, the BST made up of a community nurse and peer counselor is unique. It shows potential for making a difference in breastfeeding rates, at least for the early weeks of an infant’s life. This study adds to what is known about support and education in the form of community nurses and peer counselors, both of which have been studied individually as a strategy to increase breastfeeding specifically for low-income mothers.17,18 Critical and unique elements of the BST were that the community nurse and peer counselor worked as a team. They were accessible to the mother and infant continuously—24 hours, 7 days a week—to assist mothers with problems during the first few weeks of the newborn’s life. This team provided social support, an important issue for low-income mothers. Several research studies report that lack of support hinders the process of breastfeeding in a low-income minority sample.31-34 In addition to not having support for breastfeeding, the presence of negative support from family, peers, or professionals also hinders establishment and maintenance of successful breastfeeding in low-income mothers.32 The BST may have buffered the low support reported by mothers.

This study had several limitations. Generalization is limited to English-speaking women from 2 urban hospitals in Baltimore, Maryland. In spite of creative approaches to tracking, mothers were difficult to follow. The most difficult to follow were identified as not breastfeeding (as discussed in the Methods section). It is possible that our conservative approach to assigning breastfeeding status may have underestimated successful breastfeeding. Because of the heavy involvement and multiple contacts of the BST team with the mother, we chose to have the data collection performed by the BST team who were not masked to group assignment. This may have biased the results. Intervention effects were not maintained beyond the initial period of an intense intervention, and this represents an important lesson for future program development.

Finally, our sample size calculation was based on a difference at 12 weeks postpartum, so we may not have had an adequate sample to show a difference beyond that time period.

In summary, mothers exposed to the BST demonstrated a significant increase in breastfeeding rates through the first 6 weeks postpartum. This was a time during which the intervention was intensive and included home visiting.
and frequent telephone contact. These findings demonstrate the effort it takes to effectively promote breastfeeding in low-income mother’s lives. To increase breastfeeding, health care resources should be focused on promotion of early breastfeeding support for low-income mothers. As mothers’ lives get more complex after the early postpartum period, creative strategies for ways to sustain breastfeeding, perhaps through ambulatory clinic support, have yet to be determined.

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