

Influence of Partner Support on an Employed Mother's Intention to Breastfeed After Returning to Work

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Abstract

Background: Despite the increasing number of large companies complying with the demands for a breastfeeding-friendly workplace, providing on-site lactation support, some mothers still find continuing to breastfeed a challenge. We postulated that greater support and encouragement from the partner would be independently predictive of whether the mother would take advantage of workplace milk expression breaks and lactation rooms and continue to breastfeed after returning to work. To evaluate this hypothesis, we conducted a survey at a female labor-intensive electronics manufacturer in Taiwan.

Subjects and Methods: Six hundred eight working mothers in an electronics manufacturing plant in Tainan Science Park in Southern Taiwan who had access to dedicated lactation rooms at the workplace were interviewed. Questionnaire content included female employee demographics, employment characteristics, partner-related characteristics, and breastfeeding behavior after returning to work following the birth of their most recently born child.

Results: The partner's initial support of the choice to breastfeed and encouragement to use the lactation room and milk expression breaks and the mother's perception of the partner's support for baby care were significant predictors of the intention to continue to breastfeed after returning to work, after adjusting for the employed mother's demographics and employment characteristics, supporting our hypothesis.

Conclusions: These findings suggest that antenatal education or activities provided by the workplace should include the partner, which may improve workplace breastfeeding rates.

Introduction

RETURNING TO WORK while still breastfeeding presents a challenge. Lack of break time, lack of resources that promote breastfeeding and breastfeeding knowledge, lack of support from employers and colleagues, and inadequate facilities are among the challenges faced by employed mothers who want to continue breastfeeding.¹⁻⁴ Several studies have examined the relationship among a breastfeeding-friendly environment and policy, a supportive workplace climate, and a working mother's breastfeeding behavior.⁵⁻¹⁰ Although increasing numbers of large companies are complying with the demands for a breastfeeding-friendly workplace, providing on-site lactation support,^{6,8,9,11,12} some mothers still find continuing to breastfeed a challenge. A cross-sectional study in a Taiwanese semiconductor manufacturing plant that provides lactation rooms and milk expression breaks revealed that 66.9% of respondents breastfed initially during their maternity leave, but only 10.6% of employed mothers continued to breastfeed after returning to work.¹³ A similar study

revealed that although 88.8% of employed mothers breastfeed during maternity leave, only 24.1% continue for more than 6 months.⁹ One study¹⁴ indicated that the working mother who faces employment-related barriers to breastfeeding is, in essence, confronted with a conflict between her work and family roles. Three main types of work-family conflict are time-based conflict, strain-based conflict, and behavior-based conflict, and these conflicts have the potential to interfere with a woman's ability to combine working and breastfeeding.

When mothers are asked to identify the persons who provide support for their decision to breastfeed, their partner frequently heads the list. The partner's potentially strong influence on a woman's choice to feeding and ultimate breastfeeding success.¹⁵⁻¹⁸ If the mother feels that the partner's attitude toward breastfeeding is positive and supportive, there is a greater likelihood that she will continue breastfeeding. On the other hand, maternal perception of a negative attitude from her partner influences when a woman considers and decides to discontinue breastfeeding. A recent study¹⁸

identified five main attributes of partner support in relation to breastfeeding: (1) knowledge about breastfeeding, (2) positive attitude toward breastfeeding, (3) involvement in the decision-making process, (4) practical support, and (5) emotional support.

In the present study, we examined the impact of a partner's support of breastfeeding on the employed mother's intention to breastfeed after returning to work, after adjusting for the working mother's demographics and employment characteristics, in a female labor-intensive electronics manufacturing company in Taiwan. We postulated that greater support and encouragement from the employed mother's partner would be independently predictive of the mother's intention to take advantage of workplace-provided milk expression breaks and lactation rooms and to continue to breastfeed after returning to work. The findings of the present study will contribute to a better understanding by occupational health nurses regarding the need for breastfeeding consultants or education and of the involvement of the partner to encourage employed mothers to continue breastfeeding after they return to work.

Subjects and Methods

Research setting and subjects

This was a retrospective survey of a breastfeeding-friendly workplace and the intention to continue breastfeeding after returning to work among employed mothers in Taiwan, conducted from August 1, 2011 to April 30, 2012. The detailed methodology of this study is reported elsewhere.⁹ The research setting was Company C, a large electronics manufacturer with a large number of labor-intensive employees in the Tainan Science Park in Southern Taiwan. This company has more than 20,000 employees, 45% of whom are female, and there are 10 manufacturing plants. This company provides a basic breastfeeding-friendly workplace for employed mothers, including a lactation room and milk expression breaks. Each plant provides at least four lactation rooms for working mothers, and all lactation rooms in this company contain a table, chair, sink, electrical outlets, and a refrigerator. The employer allows a working mother to have two milk expression breaks each day, with each break lasting no more than 30 minutes. An employee needs to bring her own breast pump. Other aspects such as having a breastfeeding policy, training supervisors, and having amenities such as on-site high-quality electric breast pumps, etc., were not provided in this company.

Company C was selected because, first, it is one of several companies that have received funding from the Department of Health to establish lactation rooms and provide milk expression breaks for working mothers in its factories. This company has two types of lactation rooms: breastfeeding rooms with a private space and those with no dedicated private space. Working mothers pumping in rooms without a dedicated private space must pump in a public health center room with only curtain separators in a space used mainly for other purposes, such as acute trauma or injuries. To allow for evaluation of the impact of perceived partner support and encouragement to breastfeed after returning to work in a breastfeeding-friendly environment on the employed mother's intention to breastfeed, employed mothers with access only to lactation rooms without a dedicated private space were excluded from the present analysis. Second, this com-

pany has many young female employees. The female employees are office workers or clean-room workers (a room that is maintained virtually free of contaminants used in laboratory work and in the production of precision parts for electronic equipment). Therefore, we were able to adjust the confounding factors of employee characteristics to observe the effect of partner support on the employed mother's breastfeeding behavior after returning to work.

The researcher inquired about the willingness of this company to participate in the study by first sending an explanatory letter about the research project and then visiting the employee health management department director of the company to explain the purpose of the research. After receiving consent from the employee health management department, occupational and environmental health nurses helped distribute and collect the employed mothers' self-reported questionnaires. The questionnaire was distributed to 981 female employees who had recently taken maternity leave between January 2009 and January 2011, as recorded by the human resources department. Female workers who met the inclusion criteria (maternity leave between January 2009 and January 2011) could choose to participate in the survey. In total, 715 valid questionnaires were collected, giving a response rate of 72.9%. Of these, the questionnaires of 107 employed mothers were excluded because of the mothers' lack of access to a lactation room with dedicated private space. Therefore, data from 608 employed mothers (715 - 107 = 608) were included in the analysis. The study was approved by the Institutional Review Board of I-Shou University.

Assessment instruments and definitions

Questionnaires were used to collect data on the female employee's demographics, employment characteristics, intention to continue breastfeeding after returning to work, partner's characteristics, and employee's perception of partner support after the birth of her most recently born child. Mean time required to complete the survey was 15 minutes.

Demographics and employment characteristics. Participants' self-reported demographic and employment characteristics were assessed. A demographic inventory was used to gather data on age, education, partner's education, and child information. Level of education was used as a proxy measure for social class and categorized as follows: (1) high school or below or (2) college or above.

Employment characteristics were collected, including worksite (office versus clean room), shift work ("Did you do shift work after you returned to work?" [yes/no]), and work hours per day (8 hours/day or 9-14 hours/day).

Breastfeeding behavior after returning to work. In Taiwan, the law stipulates that employers must provide 8 weeks of maternity leave for female employees. In the present study, all lactation rooms in this company contained a table, chair, sink, electrical outlets, and refrigerator, and the employers allows working mothers to have two 30-minute milk expression breaks each day. Working mothers were defined as continuing breastfeeding if they continued to breastfeed for at least 1 month after returning to work.

To classify breastfeeding behavior after the employed mother returned to work, participants were asked the following

questions: “Did you usually use a lactation room after returning to work?” (yes/no), “Did you ever take advantage of the milk expression break policy after returning to work?” (yes/no), and “Did you continue to breastfeed after returning to work (yes/no) and how long did you continue to breastfeed?”

Partner support and encouragement for an employed mother to breastfeed. Because of the partner’s potentially strong influence on a woman’s choice to feeding and ultimate breastfeeding success, we designed some questions related to the mother’s perception of the importance of her husband’s support for breastfeeding in continuing after she returned to work.

To classify the partner’s support of breastfeeding, participants were asked to respond to the following questions: “Was your partner initially supportive of your decision to breastfeed rather than to use milk formula?” (yes/no), “Was your partner willing to help you to share household responsibilities after you returned to work?” (yes/no), and “Were you satisfied with the share of household responsibilities assumed by your partner after your returned to work?” (yes/no).

Moreover, to assess employees’ perception of partner encouragement, participants were asked, “After returning to work, did your partner encourage you to use the lactation room and milk expression breaks?” (yes/no) and “Do you agree that a partner’s support for baby care will increase the intention to breastfeed?” (yes/no).

Statistical analysis

This study explored whether greater support and encouragement from an employed mother’s partner would be independently predictive of a mother’s use of breastfeeding-friendly milk expression breaks and a lactation room and continuing to breastfeed after returning to work. The primary independent variables of interest were partner characteristics (education) and support (initial preferred feeding method for baby, sharing household responsibilities, the employed mother’s satisfaction with the sharing of household responsibilities, encouragement to use the lactation room and milk expression breaks, and the intent to continue breastfeeding when feeling partner support).

The dependent variables in this study were the use of a lactation room, taking milk expression breaks, and continuing to breastfeed after returning to work. Working mothers were defined as continuing to breastfeed if they continued for at least 1 month after returning to work from maternity leave. Hence, working mothers who did not breastfeed at the beginning of maternity leave and breastfed for less than 1 month after returning to work were categorized as not continuing to breastfeed after returning to work and were treated as a reference group in the logistic regression analyses.

All analyses were performed using Statistical Analysis System software (SAS version 6.12; SAS Institute, Cary, NC). The effects of the employed mother’s characteristics and the partner’s characteristics on use of the lactation room, taking advantage of milk expression breaks, and continuing to breastfeed after returning to work were estimated using χ^2 tests. A *p* value of <0.05 was considered statistically significant. To determine whether the independent variables predict an employed mother’s breastfeeding behavior after returning to work, multiple logistic regression analyses were individually used to identify independent variables adjusting

for the employed mother’s demographics and employment characteristics that were independently associated with using the lactation room, taking milk expression breaks, and continuing to breastfeed for at least 6 months after returning to work or for more than 6 months after returning to work. The odds ratio (OR) was calculated for each independent variable in the logistic models, and 95% confidence intervals were calculated using maximum likelihood methods.

Results

In the present study, we analyzed the data of 608 employed mothers with access to a private lactation room. As shown in Table 1, 77.1% of participants were 30–39 years of age, and 72.9% had college and higher degrees; most of their partners

TABLE 1. PARTNER CHARACTERISTICS AND ATTITUDES AMONG EMPLOYED MOTHERS WITH ACCESS TO A PRIVATE LACTATION ROOM (N=608)

| Variable | n | % |
|--|-----|------|
| Employed mothers’ characteristics | | |
| Age (years) | | |
| 20–29 | 139 | 22.9 |
| ≥ 30 | 469 | 77.1 |
| Education | | |
| High school and below | 165 | 27.1 |
| College and above | 443 | 72.9 |
| Worksite | | |
| Clean room | 279 | 45.9 |
| Office | 329 | 54.1 |
| Shift work | | |
| Yes | 328 | 54.0 |
| Work hours per day | | |
| 8 | 52 | 8.6 |
| 9–14 | 556 | 91.4 |
| Partner’s characteristics | | |
| Partner’s education | | |
| High school and below | 145 | 23.9 |
| College and above | 463 | 76.1 |
| Partner’s initial support of breastfeeding | | |
| Breastfeeding | 366 | 60.2 |
| Milk formula | 242 | 39.8 |
| Partner is willing to share household responsibilities after you return to work | | |
| Yes | 527 | 86.7 |
| No | 81 | 13.3 |
| Are you satisfied with the sharing of household responsibilities by your partner? | | |
| Satisfied | 239 | 39.3 |
| Generally | 292 | 48.0 |
| Dissatisfied | 77 | 12.7 |
| Partner encourages you to use the lactation room after returning to work | | |
| Yes | 337 | 55.4 |
| No | 271 | 44.6 |
| Partner encourages you to take milk expression breaks after returning to work | | |
| Yes | 498 | 81.9 |
| No | 110 | 18.1 |
| I agree that my partner’s support for baby care will increase my intention to breastfeed | | |
| Yes | 518 | 85.2 |
| No | 90 | 14.8 |

also had a high education level (76.1%). Shift workers made up 54% and clean-room workers made up 45.9% of the sample. Only 8.6% of the mothers averaged 8 hours of work/day (91.4% of the mothers often worked more than 8 hours). Among mothers in this study, 60.2% of the partners initially supported breastfeeding; 86.7% were willing to share household responsibilities after the employed mother returned to work, but only 39.3% of the mothers were satisfied with the share of household responsibilities that their partner assumed; and 55.4% and 81.9% of employed mothers reported that their partners encouraged them to take advantage of the lactation room and milk expression breaks after returning to work, respectively. Moreover, 85.2% mothers agreed that partner support for baby care would increase her intention to breastfeed.

Breastfeeding behavior, including taking advantage of milk expression breaks and the provided lactation room after returning to work, was grouped according to partner's education level and support level, as shown in Table 2. All independent variables were significantly correlated with the use of milk expression breaks after returning to work ($p < 0.05$). Partner-related independent variables were significantly correlated with use of the lactation room, except for sharing household responsibilities ($p = 0.0760$) and the mother's satisfaction with the amount of sharing of the household responsibilities ($p = 0.1123$). Higher education, initial support of choice to breastfeed, encouragement from the partner to use the lactation room and milk expression breaks after returning to work, and feeling that partner support would increase her intention to breastfeed were all associated with the employed mother taking advantage of milk expression breaks and use of the lactation room after returning to work.

Employed mothers' continuation of breastfeeding based on partner-related factors is shown in Table 3. Partner-related independent variables were significant correlated with employed mothers' continuation of breastfeeding, except for helping to share household responsibilities ($p = 0.3098$) and the mother's satisfaction with the level of sharing ($p = 0.5030$).

The associations between the intention to breastfeed after returning to work and partner-related predictors among employed mothers with access to private space in a lactation room based on multiple logistic regression adjusted for the employed mother's demographics and work-related factors are shown in Table 4. Significant predictors that predict a mother's taking advantage of milk expression breaks and using the lactation room after returning to work were partner's initial support of breastfeeding (OR = 1.43 for taking milk expression breaks; OR = 1.72 for using the lactation room), encouragement to use the provided lactation room (OR = 6.65 for milk expression breaks; OR = 7.35 for using the lactation room), encouragement to take milk expression breaks (OR = 3.23 for taking milk expression breaks; OR = 2.64 for using the lactation room), and feeling that partner support will increase her intention to breastfeed after returning to work (OR = 2.63 for taking milk expression breaks; OR = 2.10 for using the lactation room). Working mothers who did not breastfeed at the beginning or breastfed for less than 1 month were treated as the reference group. Significant predictors of the intention to continue breastfeeding after the employed mother returned to work for the first 6 months and more than 6 months were the partner's initial support of breastfeeding (OR = 2.35 for the first 6 months;

OR = 1.98 for more than 6 months), encouragement to use the lactation room (OR = 6.57 for the first 6 months; OR = 7.87 for more than 6 months), encouragement to take milk expression breaks (OR = 2.84 for the first 6 months; OR = 2.77 for more than 6 months), and feeling that partner support will increase her intention of breastfeeding (OR = 3.68 for the first 6 months; OR = 3.97 for more than 6 months).

Discussion

An important factor influencing a mother's intention to breastfeed is her employment status.^{2,4} One previous study¹⁴ used work-family conflict as a theoretical framework for exploring the fundamental issues faced by breastfeeding employees, and time-based, strain-based, and behavior-based conflicts often lead to decreased breastfeeding durations. The first type of conflict is time-based conflict, in which devoting time to the demands of one part (e.g., work) consumes the time needed to meet the demands of the other part (e.g., breastfeeding). Strain-based conflict occurs when strain, such as anxiety or fatigue from one part, makes it difficult to meet the demands of the other part, and it can also arise as a result of incompatible expectations within the work and family environments. The final type of conflict is behavior-based conflict, which occurs when behaviors developed in one part are incompatible with role demands in the other part, and the working mother is unable to adjust behavior when moving between parts. This was most common among factory workers. For example, some jobs such as college professor or doctor may be fairly conducive to taking milk expression breaks, whereas the needs of other jobs may make it difficult to "get away" to express milk (e.g., clean-room worker). These conflicts have the potential to interfere with a woman's ability to combine working and breastfeeding.

Companies are now largely encouraged to develop a breastfeeding support policy tailored to the needs of the company, including establishing lactation rooms and a milk expression break policy for employed mothers to increase the initiation and duration of breastfeeding. Despite having access to a private lactation room, almost 49.2% (299/608) of working mothers in the present study discontinued breastfeeding within 1 month of returning to work, and only 25% of working mothers continued to breastfeed more than 6 months. In Taiwan, the government encourages companies or industries to provide breastfeeding support services, such as providing milk expression breaks and lactation room. However, having a lactation room and a couple of breaks does not equal a culture of support. In our study, the female employees were office workers or clean-room workers. Office workers have higher educational and compensation levels than clean-room workers and generally work about 8 hours/day, but their positions encompass specific job responsibilities. By comparison, clean-room workers work 12-hour shifts. Their jobs are inconvenient and inflexible because they must remove and put on their clean-room suits when leaving and returning to their workstation. In our previous finding,⁹ women had a low intention to breastfeed, and the reasons included lack of time to breastfeed due to long work hours and difficulty breastfeeding due to clean-room and shift work. In this study ($n = 608$), 91.4% of the mothers often worked more than the legally mandated 8 hours, and 54.0% needed to take shifts and bear a heavy work burden. The intensity of the work

TABLE 2. EMPLOYED MOTHER'S BREASTFEEDING BEHAVIOR BASED ON PARTNER CHARACTERISTICS AMONG EMPLOYED MOTHERS WITH ACCESS TO A PRIVATE LACTATION ROOM AFTER RETURNING TO WORK (N=608)

| Variable | Using milk expression breaks | | p value for χ^2 test | Using lactation room | | p value for χ^2 test |
|---|------------------------------|--------------|---------------------------|----------------------|--------------|---------------------------|
| | Yes (n = 228) | No (n = 380) | | Yes (n = 311) | No (n = 297) | |
| Partner's education | | | | | | |
| High school and below | 41 (18.0) | 104 (27.4) | 0.0086 | 57 (18.3) | 88 (29.6) | 0.0011 |
| College and above | 187 (82.0) | 276 (72.6) | | 254 (81.7) | 209 (70.4) | |
| Partner's initial support of breastfeeding | | | | | | |
| Breastfeeding | 150 (65.8) | 216 (56.8) | 0.0291 | 206 (66.2) | 160 (53.9) | 0.0018 |
| Milk formula | 78 (34.2) | 164 (43.2) | | 105 (33.8) | 137 (46.1) | |
| Partner is willing to share household responsibilities after you return to work. | | | | | | |
| Yes | 207 (90.8) | 320 (84.2) | 0.0208 | 277 (81.9) | 250 (84.2) | 0.0760 |
| No | 21 (9.2) | 60 (15.8) | | 34 (10.9) | 47 (15.8) | |
| Are you satisfied with the sharing of household responsibilities by your partner? | | | | | | |
| Satisfied | 102 (44.7) | 137 (36.1) | 0.0263 | 134 (43.1) | 105 (35.4) | 0.1123 |
| Generally | 106 (46.5) | 186 (48.9) | | 143 (46.0) | 149 (50.2) | |
| Dissatisfied | 20 (8.8) | 57 (15.0) | | 34 (10.9) | 43 (14.4) | |
| Partner encourages you to use the lactation room after returning to work. | | | | | | |
| Yes | 187 (82.0) | 150 (39.5) | <0.0001 | 242 (77.8) | 95 (32.0) | <0.0001 |
| No | 41 (18.0) | 230 (60.5) | | 69 (22.2) | 202 (68.0) | |
| Partner encourages you to take milk expression breaks after returning to work. | | | | | | |
| Yes | 208 (91.2) | 290 (76.3) | <0.0001 | 279 (89.7) | 222 (74.7) | <0.0001 |
| No | 20 (8.8) | 90 (23.7) | | 35 (11.3) | 75 (25.3) | |
| I agree that my partner's support for baby care will increase my intention to breastfeed. | | | | | | |
| Yes | 211 (92.5) | 307 (80.8) | <0.0001 | 281 (90.4) | 237 (79.8) | 0.0002 |
| No | 17 (7.5) | 73 (19.2) | | 30 (9.6) | 60 (20.2) | |

Data are number (%).

TABLE 3. EMPLOYED MOTHER'S CONTINUED BREASTFEEDING RATE BASED ON PARTNER CHARACTERISTICS AND ATTITUDES AMONG EMPLOYED MOTHERS WITH ACCESS TO A PRIVATE LACTATION ROOM (N=608)

| Variable | Continue to breastfeed after returning to work | | | p value for χ^2 test |
|---|--|-------------------|-------------------|------------------------------|
| | No (n=299) | ≤6 months (n=157) | >6 months (n=152) | |
| Partner's education | | | | 0.0309 |
| High school and below | 85 (58.6) | 32 (22.1) | 28 (19.3) | |
| College and above | 214 (46.2) | 125 (27.0) | 124 (26.8) | |
| Partner's initial support of breastfeeding | | | | <0.0001 |
| Breastfeeding | 155 (42.4) | 113 (30.9) | 98 (26.8) | |
| Milk formula | 144 (59.5) | 44 (18.2) | 54 (22.3) | |
| Partner is willing to share household responsibilities after you return to work. | | | | 0.3098 |
| Yes | 254 (48.2) | 136 (25.8) | 137 (26.0) | |
| No | 45 (55.6) | 21 (25.9) | 15 (18.5) | |
| Are you satisfied with the sharing of household responsibilities by your partner? | | | | 0.5030 |
| Satisfied | 109 (45.6) | 70 (29.3) | 60 (25.1) | |
| Generally | 148 (50.7) | 71 (24.3) | 73 (25.0) | |
| Dissatisfied | 42 (54.6) | 16 (20.8) | 19 (24.6) | |
| Partner encourages you to use the lactation room after returning to work. | | | | <0.0001 |
| Yes | 96 (28.5) | 121 (35.9) | 120 (35.6) | |
| No | 203 (74.9) | 36 (13.3) | 32 (11.8) | |
| Partner encourages you to take milk expression breaks after returning to work. | | | | <0.0001 |
| Yes | 223 (44.8) | 140 (28.1) | 135 (27.1) | |
| No | 76 (69.0) | 17 (15.5) | 17 (15.5) | |
| I agree that my partner's support for baby care will increase my intention to breastfeed. | | | | <0.0001 |
| Yes | 230 (44.4) | 146 (28.2) | 142 (27.4) | |
| No | 69 (76.7) | 11 (12.2) | 10 (11.1) | |

Data are number (%).

effort (i.e., daily work hours) upon returning to paid employment significantly affects the intensity of breastfeeding.

Although lactation room and milk expression breaks are important, they are not the only components of a successful breastfeeding-friendly workplace. Regarding lactation rooms with dedicated spaces in our data, however, 51.3% of the subjects used them, but there was only a 30% satisfaction regarding the lactation room (data not shown). The breastfeeding rooms in the plants do not seem to be ideal in terms of cleanliness and comfort. Perhaps employers providing space is still not enough. Besides, 30.5% ($n=186$) of employed mothers reported feeling embarrassed about taking milk expression breaks, and 52.5% ($n=319$) felt that taking milk expression breaks would reduce their working efficiency. Based on our data, the attitude about breastfeeding in the workplace reflects misunderstanding. Family support could well be an important factor, but so would other factors such as support from supervisors and colleagues, awareness of on-site facilities, company policies that support breastfeeding, having access to quality breast pumps to maintain milk production, etc. Workplace support for the employed mother will help her decide to initiate and continue breastfeeding. Employers should have a supportive and positive attitude toward their pregnant employees. Regular breastfeeding education or matching a new mother with a mother who successfully combined breastfeeding with work also helps to establish a mentoring relationship and encourages the sharing of practical advice in the workplace.¹⁰

After adjusting for the working mother's demographics and employment characteristics, we found that (1) the partner's initial support of breastfeeding is significantly associated with the employed mother's breastfeeding behavior after returning to work and (2) the partner's encouragement to use milk expression breaks and the lactation room provided by the workplace, as well as his support for baby care, influences the employed mother's breastfeeding behavior after returning to work. Partners play an important role in the infant feeding decision, and there is a strong association between a partner's positive attitude toward breastfeeding and a mother's intention to breastfeed.^{15,18-20} Partners not only influence the decision to breastfeed, but also initiation of the first feeding, duration of breastfeeding, and decision to bottle feed.¹⁷ Moreover, a previous study indicated that mothers feel more capable and confident about breastfeeding when they perceive their partners are supportive by way of verbal encouragement and active involvement in breastfeeding activities.¹⁸ In the present study, the partner's initial support of breastfeeding was a significant predictor of the employed mother's intention to take advantage of milk expression breaks (OR = 1.43) and to use the lactation room (OR = 1.72) after returning to work and increased the likelihood that the employed mother would continue to breastfeed for the first 6 months (OR = 2.35) and more than 6 months (OR = 1.98) after returning to work.

A study based on a large survey of expectant couples in childbirth preparation classes found that a mother's decision

TABLE 4. ASSOCIATION OF INTENTION TO BREASTFEED AFTER RETURNING TO WORK AND PARTNER-RELATED PREDICTORS AMONG EMPLOYED MOTHERS OF USE OF A PRIVATE LACTATION ROOM BY MULTIPLE LOGISTIC REGRESSION ADJUSTED FOR THE EMPLOYED MOTHER'S DEMOGRAPHICS AND WORK-RELATED FACTORS (N=608)

| Variable | Using milk expression breaks | | Using lactation room | | Continue to breastfeed between 1 and 6 months | | Continue to breastfeed after 6 months | |
|---|------------------------------|---------|----------------------|---------|---|---------|---------------------------------------|---------|
| | OR (95% CI) | p value | OR (95% CI) | p value | OR (95% CI) | p value | OR (95% CI) | p value |
| Partner's education (\geq college versus \leq high school) | 1.05 (0.66–1.65) | 0.836 | 1.23 (0.80–1.87) | 0.329 | 1.13 (0.68–1.89) | 0.632 | 1.42 (0.77–2.63) | 0.251 |
| Partner's initial support of breastfeeding (breastfeeding versus milk formula) | 1.43 (1.04–2.12) | 0.029 | 1.72 (1.22–2.42) | 0.001 | 2.35 (1.54–3.63) | <0.0001 | 1.98 (1.29–3.06) | 0.002 |
| Partner is willing to share household responsibilities after you return to work. (yes versus no) | 1.66 (0.97–2.91) | 0.067 | 1.39 (0.85–2.27) | 0.187 | 1.03 (0.58–1.87) | 0.902 | 1.53 (0.81–3.01) | 0.201 |
| Are you satisfied with the sharing of household responsibilities by your partner? (satisfied versus generally/dissatisfied) | 1.25 (0.88–1.78) | 0.201 | 1.23 (0.87–1.73) | 0.233 | 1.31 (0.87–1.96) | 0.192 | 0.98 (0.63–1.51) | 0.945 |
| Partner encourages you to use the lactation room after returning to work. (yes versus no) | 6.65 (4.20–10.78) | <0.0001 | 7.35 (5.07–10.7) | <0.0001 | 6.57 (4.21–10.4) | <0.0001 | 7.87 (4.89–12.9) | <0.0001 |
| Partner encourages you to take milk expression breaks after returning to work. (yes versus no) | 3.23 (1.95–5.64) | <0.0001 | 2.64 (1.69–4.20) | <0.0001 | 2.84 (1.62–5.23) | 0.0004 | 2.77 (1.55–5.17) | 0.0008 |
| I agree that my partner's support for baby care will increase my intention to breastfeed. (yes versus no) | 2.63 (1.51–4.81) | 0.001 | 2.10 (1.29–3.45) | 0.003 | 3.68 (1.93–7.64) | 0.0002 | 3.97 (2.00–8.65) | 0.0002 |

Multiple logistic regressions were adjusted for employed mother's age, education, worksite, shift work, and work hours per day. CI, confidence interval; OR, odds ratio.

to feed her baby formula predicted a less positive paternal attitude regarding breastfeeding; this attitude likely impacted the mother's choice of infant feeding method.²¹ Partners of mothers who bottle-fed their babies were found to have a limited knowledge of the health benefits of breastfeeding to both the mothers and infants.²² That is, a partner who is aware of the benefits of breastfeeding will have a more positive attitude that influences the mother's intention to breastfeed. Educating partners about the benefits of breastfeeding for both the mother and baby and the possible problems associated with breastfeeding can give them the confidence to support their partners and become breastfeeding advocates.^{19,23,24} In a Texas study of the 2007 Behavioral Risk Factor Surveillance System²⁵ to examine whether a father's breastfeeding attitude was related to the couples' choice of infant feeding method, Spanish-speaking Hispanic men were most likely to agree that breastfeeding had social limitations for mothers (e.g., interfere with social life), and foreign-born men (in comparison to U.S.-born men) were in greater agreement that employers should accommodate breastfeeding; among fathers, support of public images of breastfeeding and attitudes toward workplace accommodations were positively associated with the mother's choice to breastfeed as the sole infant feeding method. Our study found an association between the partner's initial support of breastfeeding and the likelihood of the employed mother to take milk expression breaks, use the lactation room, and continue to breastfeed.

Our findings revealed that partner encouragement indeed increases the likelihood that an employed mother will take milk expression breaks, use the lactation room, and continue to breastfeed. The findings of our previous report⁹ revealed that encouragement by an employed mother's colleagues (OR = 2.53) and supervisor (OR = 2.45) to take milk expression breaks also increases the likelihood that she will continue to breastfeed after returning to work. Even after adjusting for encouragement by colleagues and supervisors in multiple regressions (data not shown), our results revealed that partner encouragement to take milk expression breaks remains a strong predictor of a mother's intention to continue breastfeeding after returning to work (OR = 4.40–5.74, $p < 0.0001$).

It is essential to assess the partner's opinions because paternal support is key to decisions regarding feeding methods and the duration of breastfeeding. Fathers sometimes have misconceptions about breastfeeding that easily can be clarified, such as viewing the breast as a sexual object only and not for infant nourishment.²⁶ A study examining cultural associations and beliefs concerning infant feeding practices among low-income men revealed that male participants (including fathers, expectant fathers, and potential fathers) perceived breastfeeding as "natural" but problematic, whereas formula feeding was mainly considered to be convenient and safe, and men without direct experience of breastfeeding assumed that it involved excessive public exposure and attracted unwanted male attention.²⁷ Breastfeeding is an unequalled process of providing the ideal food and care for the healthy growth and the physical and psychological development of infants. A partner's negative opinion due to misconceptions can be one of the most influential factors in a woman's decision not to breastfeed. In truth, partners have a strong influence on a mother's decision to initiate and continue breastfeeding. Moreover, a previous study indicated that mothers feel more capable and confident about breast-

feeding when they perceive their partners are supportive by way of verbal encouragement and active involvement in breastfeeding activities.²⁸ A past study²⁹ recommended that employers should consider implementing breastfeeding support services not only for their female employees but also for their male employees. With more men participating in the care of their infants, men will also benefit from a healthier infant and miss less time from work due to their infants' illnesses. An additional benefit may be that the fathers who participate in the fathering program may be more supportive in the future of their female colleagues who choose to continue breastfeeding after returning to work. Our findings suggest occupational health nurses can educate partners along with employed mothers to empower men to be more engaged in the breastfeeding decision and provide specific tips on how men can be involved in breastfeeding. This may enhance a partner's positive attitude and perception to support the employed mother in her decision to continue breastfeeding.

Conclusions

There are some limitations to our study. First, this study was cross-sectional in design; therefore, only associations could be evaluated, not causation. Second, the assessment of predictors adopted a dichotomized classification, which was simplistic, and predictor measurements mainly relied on self-report, which might have biased the results. In the present study, we examined the impact of the partner's support for the employed mother's intention to continue breastfeeding after returning to work after adjusting for the working mother's demographics and employment characteristics such as access to a dedicated lactation room and a milk expression break policy. Nevertheless, the partner's initial support of breastfeeding, encouragement to use the provided lactation room and milk expression breaks and a feeling of a partner's support for baby care were significant predictors of the employed mother's intention to take advantage of milk expression breaks and use the lactation room and to continue breastfeeding after returning to work, suggesting a positive influence. The findings of this study suggest that antenatal education or activities provided by the workplace should be designed to include the partner, which may lead to more partner support for the employed mother and improve breastfeeding rates after the employed mother returns to work.

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