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## **The Impact of Two Corporate Lactation Programs on the Incidence and Duration of Breast-Feeding by Employed Mothers**

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# The Impact of Two Corporate Lactation Programs on the Incidence and Duration of Breast-Feeding by Employed Mothers

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## Abstract

**Purpose.** The goal of this study was to examine the impact of two corporate lactation programs on breast-feeding behavior among employed women.

**Design.** Breast-feeding behavior was measured for up to one year among women who had given birth during 1989, 1990, 1991, and 1992 and compared with national norms.

**Setting.** The study was conducted at two corporations: a utilities company with 11,000 employees of which 22% were female with approximately 100 births each year and a space corporation with 3,900 employees of which 31% were female with approximately 30 births per year.

**Subjects.** Participants were 187 employees returning to work following maternity leave for a medically uncomplicated birth.

**Intervention.** Participants collected and stored breast milk using the worksite breast pump room at scheduled times during the workshift and were counseled by a lactation professional throughout the study.

**Measures.** A questionnaire was used to establish breast-feeding behavior. Duration was reported by the lactation professional.

**Results.** Since program inception, 75% of the participants who returned to work while breast-feeding continued until their child was six months old. This represented 139 of the 187 mothers at the two companies. Average duration of breast-feeding overall was 8.1 months.

**Discussion.** Participants were able to maintain a breast-feeding regimen for at least six months at rates equivalent to the statistical norms for women who are not employed outside the home. This was not an experimental study. Participants were self-selected and there was no control group. On a year-to-year basis, the numbers of participants were relatively small. Results should be corroborated in other companies using true experimental methods before generalizations are attempted. (*Am J Health Promot*, 1994; (8)6:436-441)

**Key Words:** Corporate Lactation Program, Breast-Feeding Duration

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## INTRODUCTION

Traditionally in Western countries, married women were not employed outside the home except when permanent loss of a husband through death or desertion necessitated earning a living. Changes in American society during the 20th century have brought into the workplace large numbers of mothers of young children who live with their husbands.<sup>1</sup> In fact, the fastest-growing segment of today's labor force is composed of mothers with infants and toddlers.<sup>2,3</sup> The U.S. statistical summary for 1990 records a population of 58,381,000 women in the childbearing years between 15 and 44. Of these, 71% were in the civilian labor force, and these 41,648,000 women gave birth to 2,082,400 babies during that year; 18.9% had completed four or more years of college education, and these 11,012,000 women delivered 738,000 babies; 16.8% were employed in managerial-professional occupations, and these 9,837,000 women delivered 482,000 babies; 20.6% reported a family income of \$50,000 or more, and these 12,034,000 women delivered 674,000 babies.<sup>4</sup> It is deemed likely that the labor force participation rates of women with young children will continue to increase at least for the remainder of this century.<sup>5</sup>

Breast milk provides numerous, well-documented health benefits for the infant. Most important are its nutritive and immunologic

properties.<sup>6-8</sup> One of the goals of the U.S. Department of Health and Human Services "Healthy People 2000" program is that 50% of all women who breast-feed should sustain that activity at least through their child's first five to six months of life.<sup>9</sup> Despite extensive evidence that breast-fed babies are healthier than formula-fed babies, companies seldom provide the incentive benefit of workplace assistance for a lactating mother upon return from maternity leave.<sup>10</sup>

Until recently many corporations displayed little interest in family issues such as child and other dependent care.<sup>2,11,12</sup> Company executives have bemoaned the costs of recruiting workers to replace employees who resign their positions after taking maternity leave. Lack of workplace support for breast-feeding mothers was discussed by the American Academy of Pediatrics and the World Health Organization at the 1984 Surgeon General's Workshop on Breast-feeding and Human Lactation.<sup>13-17</sup> Ryan and Martinez<sup>18</sup> state that the same proportion of mothers (55%) who were employed full time as those not employed reported breast-feeding their infants in the hospital. However, women not working outside the home tend to breast-feed their infants longer.<sup>15,18</sup>

Mothers who wish to continue breast-feeding after returning to work have relatively few and simple needs, yet most stop breast-feeding and switch their babies to formula even before going back to work or soon after returning. Others elect to extend their maternity leave or resign their positions to stay at home with their infants, at least partly because of a perceived incompatibility between continued breast-feeding and their employment situation.

One need is the availability of suitable, dependable, efficient breast pumps. A convenient, safe, private, and comfortable location at the worksite is needed for breast milk pumping. In order to maintain an adequate supply of breast milk, the employed mother needs to pump her breasts two or three times

during the work shift. This requires absence from the workstation for 15 to 30 minutes per pumping session. These needs, simple as they are, require a measure of corporate understanding from supervisors and coworkers. The availability of a lactation professional to provide advice and answer questions is matched in importance only by the understanding and support which the lactating mother receives from her partner and family.

Major obstacles often keep mothers from effectively collecting breast milk while at work: inflexible work schedules, nonempathic supervisors, restrictive company policies regarding the use of the employee's break time, the absence of a suitably equipped private site for pumping which is easily accessible and safe, the absence of electric breast pumps at the workplace, and no support network among lactating employees nor any access to certified lactation professionals. Even when not totally prohibitive, these obstacles create job-related stresses that hinder a mother's ability to express milk and store it for use by the infant at a later time.<sup>19,20</sup>

Some companies have already acknowledged the importance of offering various kinds of family services such as prenatal education, day care services, and/or flexible work schedules. Such support issues must be dealt with effectively in the workplace, since they directly affect the parent's work productivity.<sup>2,11,12</sup> A relatively new program in the work/family care area is the corporate lactation program. To date, only a few companies have instituted complete programs with lactation professionals on site. Reticence regarding such programs may be due to a general lack of knowledge at the corporate level or an uneasiness with the issues. Many male corporate executives are uncomfortable in discussing breast-feeding with female employees, and some female supervisors and managers also express negative attitudes regarding the appropriateness of this activity in the work setting. Many executives have simply

not considered fully the corporate impacts resulting from the health benefits to infants who are fed breast milk. The mothers of healthier babies are likely to be more productive at work and be absent from work fewer days to stay home to care for a child who is sick. A reduction in absenteeism among employed mothers can represent a cost savings to the corporation.

The purpose of this study was to determine the impact of two corporate lactation programs on breast-feeding behavior among employed mothers, and to estimate the physical and financial resources required to establish and maintain a corporate-sponsored lactation program.

## METHODS

### Design

Breast-feeding behavior was examined among employees of two corporations. Incidence of breast-feeding was determined by a questionnaire administered upon return from maternity leave. Duration of breast-feeding was documented for program participants by the lactation professional responsible for the corporate lactation programs at each company. The results were compared with national statistical norms.

### Sample

This study was conducted at two companies in California having onsite lactation programs. The larger part of the study was conducted at the Los Angeles Department of Water and Power, a utilities company with 11,000 employees of which 78% are male and 22% female. Within this company there are approximately 100 female employees who give birth each year. A full-time, onsite lactation program was initiated at the company in June 1988.

The study was replicated at an aeronautics corporation, also located in California, which employs nearly 3,900 persons of which 69% are male and 31% female. There are approximately 30 births per year to female employees in this

company. The corporate lactation program also began in June 1988.

The 187 individuals studied were identified through a questionnaire completed by employees returning to work at least 16 hours per week following maternity leave for a medically uncomplicated delivery. The figure of 16 hours per week was chosen because at that level of commitment the woman would need to collect breast milk at work to maintain the breast-feeding schedule. The utilities company does not allow part-time employment, and only two of the women from the aeronautics company worked part-time. One of those women returned to her full-time schedule after two months and the other when her baby reached six months of age. For the purposes of this study, a child was considered breast-fed if breast milk was used exclusively with no supplementary nutrition or partially breast-fed if given no more than two supplementary bottles of formula per day.<sup>21</sup>

Ryan and Martinez<sup>18</sup> found that the combination of breast-feeding and full-time employment occurred most frequently among mothers over 25 years of age with at least some college education and an income over \$25,000 living in the western part of the U.S. The mothers studied here matched that profile closely. Participation by various ethnic/racial groups in these two programs was proportional to their representation in the corporate profile in all categories except for African Americans who consistently appear to be under-represented in these breast-feeding programs. Corporate demographics are summarized in Tables 1 and 2. In terms of salary, all participants in the aeronautics company were paid above \$25,000 annually (range: \$30,000 to \$94,000). More detailed salary figures were available for participants from the utilities company. Over the course of four years at the aeronautics company, all but three of the women participating in the program were married; and at the utilities company, all but one were married.

### Measurement

Demographics were tabulated for program participants in each company over the years 1989 through 1992, including salary and ethnic and racial categories. Similar data for the entire corporation employment profile for women were obtained for 1993. The proportion of mothers breast-feeding their

infants was obtained using a questionnaire. The duration of breast-feeding among program participants was determined through direct observation by the professional responsible for the corporate lactation programs at both companies and through company records relating to the use of the equipment by women who were pumping their

Table 1

Utilities Company Female Employee Demographics

	Lactation Program Participants				All Female Employees 1993
	1989	1990	1991	1992	
Average Age (yrs)	30.5	29.8	32.1	29.5	N/A
Range	23-41	25-40	23-42	23-41	N/A
Average Salary	\$30K	\$32K	\$33K	\$36K	N/A
Ranged	\$18-70K	\$19-50K	\$20-65K	\$24-50K	N/A
Average Duration					
Breast-feeding (mo)	6.9	8.6	7.9	7.4	N/A
Range	3-15	4-24	3-14	3-14	N/A
N	24	24	31	29	2,774
Race/Ethnic Origin					
White	33.3% (8)	58.3% (14)	35.5% (11)	37.9% (11)	29.7% (823)
African American	33.3% (8)	16.7% (4)	16.1% (5)	20.7% (6)	28.1% (780)
Asian	25% (6)	8.3% (2)	9.7% (3)	13.8% (4)	11.8% (327)
Hispanic	8.3% (2)	16.7% (4)	38.7% (12)	24.1% (7)	22.5% (624)
Other	— (0)	— (0)	— (0)	3.4% (1)	7.9% (220)

Table 2

Aeronautics Company Female Employee Demographics

	Lactation Program Participants				All Female Employees 1993
	1989	1990	1991	1992	
Average Age (yrs)	31.6	32.6	31.6	33.1	N/A
Range	25-43	28-41	23-38	26-40	N/A
Average Duration					
Breast-feeding (mo)	9.1	10.0	8.8	8.4	N/A
Range	4-30	4-18	3-21	2-16	N/A
N	27	14	18	20	1,147
Race/Ethnic Origin					
White	66.7% (18)	78.6% (11)	50.0% (9)	60.0% (12)	61.3% (703)
African American	7.4% (2)	14.3% (2)	11.1% (2)	10.0% (2)	18.9% (217)
Asian	14.8% (4)	7.1% (1)	22.2% (4)	10.0% (2)	11.2% (129)
Hispanic	7.4% (2)	— (0)	11.1% (2)	20.0% (4)	8.2% (94)
Other	3.7% (1)	— (0)	5.5% (1)	— (0)	0.3% (4)

breasts at work. This was not a controlled study. Determination of incidence of breast-feeding was limited to those responding to the questionnaire given to all employees returning from maternity leave. No attempt was made to locate and follow the breast-feeding patterns of individuals who did not respond. Observations regarding the duration of breast-feeding were limited to questionnaire respondents who volunteered to participate in the lactation program. Data used for comparisons are based only on the history of these cases.

### **Intervention**

The utilities company set the following explicit goals for its corporate lactation program: encourage and prepare the employee to return to work, increase or maintain high levels of productivity, increase employee morale, minimize the amount of disability or leave time taken, reduce absenteeism, reduce turnover, and support the nursing family.

These lactation programs were conducted in three activity phases: prenatal classes, perinatal counseling regarding lactation, and return-to-work lactation maintenance services. The prenatal classes on parenting and breast-feeding included an explanation of all the support services which were made available to the mother and infant through the corporate lactation program. All sessions were conducted at the work setting, usually during lunch hours or immediately after work. Class times were strictly maintained at 30 to 45 minutes. Individual questions were answered outside of class. Separate sessions explaining breast-feeding were held on request for men whose pregnant partners were corporate employees. To ensure that the objectives of the programs are met, both companies began with prenatal education early in pregnancy to develop a positive attitude toward breast milk feeding and concurrent maternal employment. Wherever possible the father was included because of the importance of his contribution to a successful lactation program.<sup>22</sup>

During the perinatal period the corporate lactation consultant at both companies was available to the mother, the father, and other members of the family to provide reassurance and answer questions. The consultant assisted with common problems experienced in initiating lactation such as building an adequate milk supply and maintaining good nutrition and rest. The consultant also could provide advice about any abnormalities and, if necessary, refer the mother and infant promptly to appropriate health care professionals. As employees prepared to return to work, they were provided with an electric breast pump and instructions for a two-week orientation period at home. During this time they learned about efficient use and maintenance of the equipment and proper storage of breast milk. The final step in the perinatal period was a return-to-work site visit. This visit was used to demonstrate the equipment available in the lactation room, to emphasize the importance of cleanliness in the facility, and to ensure that the employee appreciated the importance of promptness in meeting her scheduled times in the room and knew what to do if a scheduled time was missed. During the site visit there was also a discussion including the returning employee's supervisor to clarify any remaining issues regarding the maintenance phase of the lactation program.

At both companies the worksite lactation maintenance phase began on the first day the mother returned to work and continued for as long as the baby received breast milk. The lactation professional provided ongoing individualized support for the mother in such important areas as nutrition, fatigue management, stress reduction, working with the manager/ supervisor for worksite support, and balancing work and family issues. The lactation consultant also advised breast-feeding mothers who had been at work for some time in matters such as management of the mother's overnight business travel; fluctuating milk output volumes;

baby's changing patterns in eating, sleeping, teething; growth spurts; supplementation of baby's diet with solid food; relationship between breast-feeding and birth control; and general issues related to child development. Counseling was also available for family members and male employees whose spouses or partners were breast-feeding.

Typically, each woman was scheduled to use the pumping room for 30 minutes two or three times during an eight-hour workday, depending on her pumping frequency as established during the at-home breast pump trial. Every woman was provided with a portable cooler case which contained ice packs, milk storage bottles, and all the breast milk collecting equipment and tubing. Electric breast pumps were provided in the onsite facility. The companies in this study use Medela 015 Classic electric breast pumps in the lactation rooms and the portable Lactina 016 pump for off-site locations, travel, and home use. All pumps were equipped with the bilateral milk collection system.

Program promotion was more effective in the aeronautics company where the women worked at contiguous sites. The utilities company had women working in many buildings and on shift-based service crews in the field.

Physical requirements for the lactation room were minimal: a room size of at least three by four feet, with an electrical outlet, source of ventilating air, light, wall-mounted utility wardrobe hooks, comfortable chair, footstool, and wall-mounted shelf to hold the pump and supplies. Privacy and personal safety from intruders while the room is in use was ensured by a door which opens outward but is lockable from within.

Charges for these contractual services are based on fees for use and include prenatal classes, perinatal counseling, and return-to-work maintenance services with a lactation professional available on call throughout the period of participation in the program to provide ongoing education, counseling, and

support. Excluding the capital outlay to establish the furnished and equipped physical facility, the cost to the employer for providing services from the prenatal period through the first six months of the baby's life was approximately \$500 for each employee in these programs. This figure reflects corporate experiences with the majority of women who used the service through their baby's sixth month of age. These programs were both initiated in 1988 and are still functioning.

### Analysis

The data obtained were tabulated as frequencies and compared with the national statistical norms.

### RESULTS

Table 3 shows the incidence of breast-feeding among employee mothers who had returned to work and the duration of breast-feeding among the participants in these two corporate lactation programs. For example, in 1989, of the 100 mothers who gave birth at the utilities company, 24% returned to work breast-feeding and were

participating in the corporate lactation program. Fourteen percent of the original 100 women in the company who had given birth were still participating after six months. The average duration of breast milk feeding for mothers in this study was 8.1 months.

Since program inception, approximately 75% of the mothers in these corporate lactation programs who returned to work breast-feeding their babies continued breast-feeding until the child was at least six months of age. This represents 77/108 or 71.3% of the women at the utilities company and 62/79 or 78.5% of the women at the aeronautics company. It was also noted that in this study mothers who participated in the corporate lactation programs and fed breast milk were on maternity leave for an average of 3.4 months, while formula feeding mothers averaged 2.3 months.

### DISCUSSION

Nationally it is reported that only 10% of full-time employed mothers who leave the hospital breast-feeding their infants continue through the sixth month of age,

compared with 24% of breast-feeding mothers not employed.<sup>18</sup> Findings from this study indicate that the employed mothers who participated in these supportive corporate lactation programs were able to maintain a breast-feeding regimen for at least six months at rates equivalent to those usually found among women who are not employed outside the home.

The different participation rates between the two companies reflect, at least in part, the effect of disparate versus contiguous worksites on the in-house promotion of the corporate lactation program. Women tended to participate in the lactation programs in numbers proportional to those found for their race or ethnic identity groups throughout the female corporate employee profiles. However, African-American women consistently participated in these programs in percentages somewhat lower than their representation in the work force for these two companies.

The fact that this work was not designed as an experimental study limits any generalizations from the findings. There was no control group; therefore, it is only possible to report the results in comparison with published national norms. Those who signed up for the lactation program were self-selected and might have been more motivated than returning employees who were breast-feeding but did not participate in the program. On a year-to-year basis, the number of program participants in the two companies was relatively small. Conclusions drawn from this study should be corroborated in other companies using true experimental methods before any generalizations are attempted regarding impacts of corporate lactation programs on the incidence and duration of breast-feeding by employed mothers.

Table 3

Incidence and Duration of Breast-feeding in Two Corporate Lactation Programs

Year of Program	1989	1990	1991	1992
Utilities Company (100 births/yr)				
% of women returning to work breast-feeding and pumping	24% (24)*	24% (24)	31% (31)	29% (29)
% of women still in program 3 months after birth	14% (14)	20% (20)	20% (20)	23% (23)
% of women still in program 1 year after birth	3% (3)	4% (4)	8% (8)	N/A**
Aeronautics Company (30 births/yr)				
% of women returning to work breast-feeding and pumping	90% (27)	60% (14)	60% (18)	67% (20)
% of women still in program 3 months after birth	73% (22)	33% (10)	53% (16)	47% (14)
% of women still in program 1 year after birth	14% (6)	14% (6)	9.5% (4)	N/A**

\* Actual number of cases in parentheses. Percentages reported on the basis of total annual births reported in the company (100/yr for utilities company, 30/yr for aeronautics company).

\*\* NA – Data collection was concluded for this publication prior to the time infants born in that calendar year were one year old.

## SO WHAT? Implications for Health Promotion Researchers and Practitioners

This study seems to indicate that a worksite lactation program can increase breast-feeding rates among employed women to a level comparable to rates among women not employed outside the home. Given the nonexperimental design and the lack of other research on this topic, the results should be considered preliminary. However, if these results are replicated, workplace lactation programs may prove to be an effective intervention to increase breast-feeding among employed women.

### References

1. Blau, F., Grossberg, A. Real wage and employment uncertainty and the labor force participation decisions of married women. *Economic Inquiry*, 1991; XXIX:678-695.
2. Work and Family, A Changing Dynamic. A Bureau of National Affairs Special Report, ISBN: 0-87179-901-4. Washington, D.C., 1986.
3. Maume, D., Jr. Child-care expenditures and women's employment turnover. *Social Forces*, 1991; 70:495-508.
4. Bureau of the Census. *Statistical Abstract of the United States: 1999*. 112th Edition. Washington D.C.: U.S. Department of Commerce, 1992; Table 93.
5. Greenstein, T. Human capital, marital birth timing, and the postnatal labor force participation of married women. *Journal of Family Issues*, 1989; 10:359-382.
6. Cunningham, A., Jelliffe, D., Jelliffe, E. Breast-feeding and health in the 1980s: A global epidemiologic review. *Journal of Pediatrics*, 1991; 118:1-8.
7. Kovar, M., Serdula, K., Marks, J., Fraser, D. Review of the epidemiologic evidence for an association between infant feeding and infant health. *Pediatrics*, 1984; 74:615-638.
8. Lawrence, R. *Breastfeeding, A Guide for the Medical Profession*. 2nd Ed. St. Louis, Missouri: C. V. Mosby Co., 1985.
9. *Healthy People 2000, National Health Promotion and Disease Prevention Objectives*. Conference Edition. Washington, D.C.: U.S. Department of Health and Human Services, 1990; 377.
10. Michelman, D., Faden, R., Gielen, A., Buxton, K. Pediatricians and breastfeeding promotion: Attitudes, beliefs, and practices. *American Journal of Health Promotion*, 1990; 4(3):181-186.
11. Fernandez, J. *Child Care and Corporate Productivity*. Lexington, Massachusetts: Lexington Books, 1986.
12. Zedeck, S., Mosier, K. Work in the family and employing organization. *American Psychologist*, 1990; 45:240-251.
13. Barber-Madden, R., Petschek, M., Pakter, J. Breastfeeding and the working mother: Barriers and interventions strategies. *Journal of Public Health Policy*, 1987; 8:531-541.
14. American Academy of Pediatrics policy statement based on task force report: The promotion of breast-feeding. *Pediatrics*, 1982; 69:654-661.
15. Ryan, A., Rush, D., Krieger, F., Lewandowski, G. Recent declines in breast-feeding in the United States, 1984 through 1989. *Pediatrics*, 1991; 88:719-727.
16. The Surgeon General's Workshop on Breastfeeding and Human Lactation. Washington, D.C.: U.S. Department of Health and Human Services, DHHS Pub. No. HRS-D-MC 84-2, 1984.
17. Joint World Health Organization and UNICEF Meeting on Infant and Young Child Feeding, Geneva, October 1979.
18. Ryan, A., Martinez, G. Breast-feeding and the working mother: A profile. *Pediatrics*, 1989; 83:524-531.
19. Auerbach, K., Guss, E. Maternal employment and breastfeeding: A study of 567 women's experiences. *American Journal of Diseases of Children*, 1984; 138:958-960.
20. Petschek, M., Barber-Madden, R. Promoting prenatal care and breastfeeding in the workplace. *Occupational Health Nursing*, 1985; 33(2):86-89.
21. Labbok, M., Krasovec, K. Toward consistency in breastfeeding definitions. *Studies in Family Planning*, 1990; 21(4):226-230.
22. Jordan, P., Wall, V. Supporting the father when an infant is breastfed. *Journal of Human Lactation*, 1993; 9:31-34.