A Double-Edged Sword: Lactation Consultants' Perceptions of the Impact of Breast Pumps on the Practice of Breastfeeding

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ABSTRACT

This qualitative descriptive study examined the beliefs and experiences of 12 lactation consultants regarding the impact of breast pumps on breastfeeding practices. Interview topics on breast pumps included types and patterns of use, mothers' experiences, and advantages and risks. The lactation consultants reported an increase in the use of breast pumps due to improved marketing, a change in society's view of pumps as a necessity rather than a luxury, and the impact of birthing technology. Reasons given for this increased use were mothers' need to have greater control over the breastfeeding process and to quantify the amount of breastmilk. Concerns were expressed regarding an overdependency on breastfeeding technology by some lactation consultants and mothers.

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In the past two decades, there has been an upsurge in the use of breastfeeding technology, such as breast pumps, by mothers to facilitate and assist in breastfeeding. Premature infants who are unable to feed at the breast are able to receive the nutritional and immunological advantages of breastmilk obtained through breast pumps (Hill & Aldag, 2005). Mothers of term infants often purchase breast pumps as standard baby equipment to insure continued production of breastmilk when they are unable to breastfeed due to employment, traveling, taking a prescription, or just going out for an evening (Slusser & Frantz, 2001). Other mothers may

choose this alternative because they find it more convenient for others to participate in infant feeding, are making the transition to return to work, or prefer more scheduled feedings. Despite these advantages, the use of breast pumps has also been associated with adverse events, including breast pain, soreness, and discomfort; the need for medical intervention; breast tissue damage; and contamination of breastmilk during pumping (Brown, Bright, Dwyer, & Foxman, 2005; D'Amico, DiNardo, & Krystofiak, 2003). Brown et al. (2005) suggest that adverse events associated with breast-pump use have been underreported to the U.S. Food and Drug Administration.

Although it is undisputed that the use of breast pumps is essential with preterm infants and working mothers, less is known about the effect of pump use among term infants of stay-at-home mothers. The literature reports both positive and negative effects in this population (Grassley, 2004; Win, Binns, Zhao, Scott, & Oddy, 2006). The effect may be dependent on when the breast pump is introduced. In a study of 946 women in the Midwest region of the United States, Schwartz et al. (2002) found that the use of breast pumps in the first 3 weeks postpartum put women at a higher risk for cessation of breastfeeding, even when controlling for pain and mastitis. In contrast, after 3 weeks, the use of manual expression reduced the risks of early weaning.

Although much has been reported on the impact of technology on the childbirth experience (Davis-Floyd, 1994, 2001; Lothian, 2001; Sandelowski, 2000), there is less reporting on the effect of technology on the practice of breastfeeding in the United States. Lactation consultants (LCs), who provide the clinical management of breastfeeding problems, are in an ideal place to assess the influences of breastfeeding technology upon the practice of breastfeeding. Not only are LCs in the position of recommending the use of equipment for breastfeeding problems, but they are also obligated by their standards of practice to discuss the risks and benefits of use, evaluate safety and effectiveness, demonstrate the correct use and care of equipment, and assure that equipment is clean and in good operating condition (International Lactation Consultant Association, 2006). Thus, the purpose of this pilot research study was to identify and describe the beliefs and experiences of LCs related to the impact of the increased availability of breast pumps on the practice of breastfeeding.

METHODS

The present study used a descriptive, qualitative design to examine the beliefs and experiences of LCs related to the impact of technology on the practice of breastfeeding.

Participants

A sample of 12 International Board Certified Lactation Consultants, who had been in practice for at least 1 year and were currently providing services to breastfeeding women, were recruited for the study, using purposeful sampling. All of the LCs were registered nurses, and two were certified pediatric nurse practitioners. The participants were

TABLE
Demographic Characteristics of Lactation Consultants (N = 12)

Characteristic	Total
Age (years)	
Range	38 – 60
Mean $\pm$ SD	50.1 $\pm$ 6.6
Education	
College degree	7
Graduate degree	5
Ethnicity	
White	11
Black	1
International Board of Lactation	
Consultant Examiners certification (years)	
Range	1 – 17
Mean $\pm$ SD	6.7 $\pm$ 6.2

predominantly White, middle-aged, and college educated, living in the Washington, D.C., metropolitan area (see Table). They practiced in a variety of settings, including hospitals (neonatal intensive care and mother-baby units), private practice, home care, outpatient centers, and pediatricians' offices.

Interviews

Data were collected through semistructured interviews at an agreed upon location where participants felt most comfortable and where privacy was ensured. Interview topics regarding breast pumps included: (a) reasons for use, (b) changes in patterns of use, (c) mothers' experiences, and (d) advantages and risks. All interviews were tape-recorded and lasted between 60 and 90 minutes.

Ethical Considerations

Permission to conduct the study was obtained from the Committee for the Protection of Human Subjects of the Catholic University of America in Washington, D.C. Written informed consent was obtained from all subjects after they received an explanation of the purpose and process of the study. Participation was voluntary, and the subjects were informed of their right to withdraw from the study at any time.

Data Analysis

The data were examined using content analysis, as described by Morse and Field (1995). The LCs' responses were transcribed verbatim from audio recordings, and data analysis began by listening to and reading the interviews in their entirety to attain a general sense of each person's experience.

For more information on standards of practice for International Board Certified Lactation Consultants, visit the Web site of the International Lactation Consultant Association (www.ilca.org).

Text data were carefully read and systematically analyzed to identify recurrent themes and patterns, which were used to generate a series of categories. Although some of the main analytical categories were already apparent, as they formed the key concepts in the interview questions, the emerging categories were analyzed for overarching patterns and themes. Next, the transcriptions were entered as text, and second-level coding was used with NVivo7™ software (QSR NVivo, Cambridge, MA, 2006) to ascertain core themes within each category. This software package has been extensively used in qualitative research. Its principal benefit is that it offers a structure for managing large amounts of data with the goal of identifying and prioritizing major themes (Béhague & Storeng, 2008; Butt, Markle-Reid, & Browne, 2008). The data were re-examined after coding in NVivo to verify and test out the categories and look for relationships between themes and subthemes.

As an external check of my accuracy, another maternal-child nursing researcher was recruited to jointly follow the analysis process, including a critical reading of the results. Disagreements were discussed and decisions reached by consensus to finally converge on emerging themes that made sense and accurately reflected the content of the discussions. No significant discrepancies in identified themes and conclusions were found. Exemplars from the interviews were selected to represent the identified themes.

RESULTS

When asked about any changes in patterns of breast-pump use, all of the LCs reported an increase in use since they had started their practice. Their comments regarding the factors contributing to this increase were reduced to two major categories: (a) changes in society and hospital practices and (b) the perceived benefits and risks of breast pumps by LCs and mothers.

Changes in Society and Hospital Practices

Many of the LCs described how the use of breast pumps had dramatically increased over the last 1–2 decades since they had breastfed their own children. They described not only today's increased availability of multiple styles of pumps that were not available when they breastfed their own children, but also the changes in attitudes by society toward breast-pump use. The LCs who worked in labor and birth or on postpartum units discussed

how changes in birthing have contributed to the increased use of breast pumps by health professionals who work with mothers during the postpartum period.

From luxury to necessity. Several LCs discussed the impact of improved marketing practices on the increase in breast-pump use. They reported that breast pumps are routinely included on prenatal checklists in popular mother-baby magazines and that many mothers receive pumps as gifts at baby showers. Mothers often consider breast pumps as essential baby equipment, along with the car seat. Many women routinely bring pumps to the hospital when they arrive to give birth to their babies. The LCs described breast pumps as moving over time from a “luxury” to a “necessity.” One LC suggested that the increase in use is also due to work environments becoming friendlier toward breastfeeding, but she felt that this is only part of the explanation because breast pumps appear to be standard even for stay-at-home mothers. Another LC shared her reaction to the trend of increased breast-pump use:

The trend among women of childbearing age in this country is to think they need a breast pump. They buy one before the baby's born so they have it ready. I find that odd, actually, because the human race has survived all these years without breast pumps. The baby to the breast is the way the human being has evolved as a mammal, and that's what should be the focus. It's a symptom of our techno-crazy age, perhaps. People think they need electric equipment to do what should be a very natural process.

The shift in the view of breast pumps from a “luxury” to a “necessity” was not only held by mothers, but also accepted by several LCs. The LCs in this study expressed dismay that some LCs were becoming overly dependent on breast pumps and had lost

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or never developed the art of manual expression. As one LC said, “Some LCs may give up a little too soon in terms of latching a baby. They try two or three times, and nothing works. So, ‘Well, let’s go ahead and start pumping.’ ” Another very experienced LC, who had worked with mothers for over 25 years, was concerned about LCs losing the skills for “getting the baby on the breast” and stated:

In many cases, breast pumps are used too much as a Band-Aid that interferes with breastfeeding. Many in the international community see them as detrimental as formula. If a mother is having trouble in the hospital, it’s “Get her a breast pump” and not “Let’s work with her more and get her to breastfeed.”

The three LCs who taught breastfeeding and childbirth classes stated that breast pumps were routinely discussed during the classes because this was information the mothers requested. One LC stated that she offered a presentation on breast pumps as an optional final session of her childbirth class. Invariably, all of the mothers attended the session. The LC stated, “The mothers routinely ask me, ‘When do I start a bottle?’ and ‘What kind of breast pump should I get?’ They simply assume that every baby is bottle-fed.” However, according to the LCs, the breast pump was only one link in the increasing use of technology that has an impact on mothers’ breastfeeding experiences.

Technological birth – technological breastfeeding. Several LCs explained the increase in the use of breast pumps by mothers as a consequence of the rise in the use of medical intervention and technology during birth. Their premise was that many of these medical interventions lead to problems in infants that interfere with breastfeeding. As one LC stated, “Technological birth naturally leads to technological breastfeeding.” Many of the LCs who worked on postpartum units in hospitals stated that it is common for mothers to be subjected to multiple medical interventions during birth, and this technology often impacted the breastfeeding process. As one LC explained:

The obstetricians commonly use pitocin to speed up labor. This causes jaundice and, consequently, sleepiness in the infants. Epidurals and narcotics have almost become routine procedures, causing babies to be excessively sleepy, have a disorganized

suck, and further disorganization in getting themselves latched on well to the breast. In turn, the breast pump becomes necessary to protect milk supply and to prevent engorgement that results from babies not latching well.

The discussion of the impact of birthing technology on the need for breastfeeding technology arose repeatedly. Another LC described the potential effect of giving excessive fluids during birth as contributing to undue weight loss in the infant or edema of the mother’s nipple, leading to latch problems that, in turn, require more technology to rectify the problem.

A breast pump for every room. Another change in hospital practices that the LCs felt had an impact on breast-pump use was the pump’s increased availability in every patient room on postpartum units. Somewhat conflicting reactions occurred among the LCs as to the benefits and risks of this practice. Some felt the availability of breast pumps in every room made their job much easier in terms of having ready access to a pump should it be needed. Other LCs related the availability as a means of increasing maternal confidence by increasing mothers’ control over breastfeeding. As one stated, “The pump gives them confidence because it’s a tool, a crutch, something they can have control over even if they can’t control their own baby doing what they want at the breast.” In contrast, other LCs were less accepting of the practice of a breast pump for every room. One LC who worked in the hospital outpatient department said that, when the nurses in her hospital were considering placing a breast pump in every room, the LCs in her department raised objections. They were concerned that the presence of the pump might not support but, rather, would undermine a mother’s confidence by encouraging reliance on technology instead of on the baby or the mother’s own body. In the end, the staff compromised and elected to put a pump in every room, but they covered the pumps so that they were not readily visible.

Although the breast pumps were convenient when needed, some LCs were concerned that the pumps’ presence may have sent unintended messages to mothers. In one of the local hospitals where the breast pumps in every room were visible, an LC compared the breast pump to other equipment in the room and stated that perhaps they should have considered covering the breast pumps. She commented:

We have pictures in the room behind the bed that you slide up and there is oxygen and [resuscitation] equipment behind them. It's hidden because it has a subliminal message that we think you might die here. One message [to mothers] is that you need a breast pump and should consider buying one. We didn't have to fight too hard to get 35 pumps free of charge hauled in there. They're not philanthropists. They're just good business people.

Perceived Benefits and Risks of Breast Pumps

All of the interviewed LCs reported using breast pumps in their practices for a variety of reasons. The LCs working with babies in neonatal intensive care units highlighted the necessity of breast pumps for providing breastmilk to preterm infants who were unable to feed directly from the breast and for preserving the mother's breastmilk supply. For term infants, the breast pump was used to establish or protect a mother's milk supply when she was separated from her infant or while the LC worked with the mother on a breastfeeding problem. The breast pump was also used to relieve engorgement or plugged ducts, to increase the milk supply for infants with slow weight gain or weight loss, or to improve the latch by stimulating a quicker let-down or pulling out inverted nipples. Finally, many LCs underscored the importance of the breast pump for women who were going back to work and relied on breast pumps to maintain their milk supply.

The most commonly identified risks of breast pumps were breast-tissue damage, infection, and contamination of breastmilk. The LCs stated that these problems were often due to the mothers' improper use or inappropriate selection of a breast pump for the situation at hand. Although most of the LCs mentioned that the availability of breast pumps allowed women to continue breastfeeding while going back to work, some expressed their amazement that mothers could continue this work-intensive project for months, while others expressed their ambivalence toward this practice. An LC who consulted with many working mothers stated:

It's that "pump-for-every-mom" controversy. If breast pumps can help more working women with bringing breastfeeding into their lives and connecting with their baby, that's a good thing. But, in a way, I wonder if this technology doesn't help us and has given us an out. We don't have to give good maternity leave because we are going to give

a pump to every mom and give her 15 minutes twice a day to pump her milk.

Although many of the advantages and risks stated above have been reported in the literature, other reasons given by this study's LCs to explain the increase in breast-pump use included the pump as a means for mothers to maintain greater control over the feeding process, to satisfy the need to quantify the infant's intake more accurately, and to provide a major source of income for some LCs. These reasons were viewed in some cases as an unhealthy overdependency by LCs and mothers on breastfeeding technology.

Increase in mothers' control over feeding. A concept that repeatedly arose to explain the increase in the use of breast pumps, especially among mothers of term infants, was *control*. The LCs reported that the use of a breast pump was often precipitated by mothers' concerns of having insufficient breastmilk and searching for ways to "control" the situation. If the mothers did not directly request the use of a breast pump because their "milk hadn't come in," the LC might suggest a pump to mothers "to help them to see if they have milk." However, LCs reported the potential risks of using a breast pump for this purpose. As one LC described in explaining her actions:

I don't push pumps initially, but it's this balance of trying to convince the woman that she does have something. But early on when she pumps, she may not see a yield, and that might be discouraging. So I always warn them ahead of time that colostrum does not pump out very well. If nothing else, it buys a little time where they are calming down and keeping busy with something until they can get the baby on—when the baby is not as frantic. Or I'll have the baby skin-to-skin, and [the mother will] be pumping on the other side. Because the minute [the babies] start to cry, the moms want to put them on the breast. But pumps are a nice thing to keep moms busy. If they ask for it, we give it to them.

A second LC also encountered many mothers who requested breast pumps early after birth as a means of increasing control over the feeding. She stated:

The baby is an hour old, and these mothers are convinced that pumping will take care of the problem—

that so many women don't have enough milk. But they feel they can do something about it. They rely on this equipment—rely on technology and not on that little creature lying in that bed over there. They can control when they pump and don't pump, and how long they pump, but they can't, in their mind, have total control over how well that baby feeds or how long the baby feeds or how much the baby gets from the breast.

The LCs identified the mothers who sought ultimate control as women who had term infants and had planned or evolved toward using the breast pump to provide breastmilk for all feedings until weaning. All of the LCs stated that there was an increase in this trend. Some described the practice as “scary” or concerning, especially among mothers who, prior to birth, planned on only pumping. The LCs reported that mothers claimed this choice allowed them more freedom to know what their infant was getting, to sleep better at night, and to gain greater control over infant feeding. Other LCs guessed that some mothers might have been victims of sexual abuse or found breastfeeding painful or uncomfortable, although they were aware of the nutritional and health advantages of breastmilk. The LCs’ responses to mothers who provided their infants with only expressed breastmilk varied considerably. A common response would be to explain the consequence of “double-duty” work. As one LC stated:

Mothers envision pumping and feeding, initially, as a decrease in their workload, but we tell them, “If the baby does have to get milk from a bottle, it’s going to be you giving it, and you’ve got to clean all that equipment and put it altogether. These are things that you wouldn’t be doing if the baby just took it out himself.”

Other LCs were more reluctant to disagree with the mother’s decision, not wanting the mother to feel guilty about her choice, and knowing it was better than not providing breastmilk at all. The mother could always decide later to transition to at-breast feedings. To these LCs, it was better to be prepared to listen to the mother and support her in whatever decision she elected.

Quantification of breastmilk. The concept of control over breastfeeding was limited not only to the place, time, and who fed the infant, but also to

having a clear grasp over the exact amount of breastmilk ingested by the baby. Several LCs reported that a major concern expressed by both mothers and fathers was, “How do I know how much he is getting?” Many LCs saw this need to quantify as part of the general societal trend toward quantification, and they were concerned that so many mothers lack the confidence to feed at-breast successfully.

Economic impact of breast-pump sales/rentals. Although the majority of LCs described the multiple benefits of breast pumps, several expressed concern that, for some LCs, pumps made up their primary source of income, more than they received from consultations. One LC described how she handled the dilemma. She decided she was not going to allow the profits that she received from breast-pump rentals and sales to exceed more than 50% of her income. At the end of the year, if she found herself in this situation, she returned some of her breast-pump rentals. Some LCs were concerned that, without this source of income, they would not be able to maintain a practice. Another LC, who worked primarily with infants in the neonatal intensive care unit, also discussed the ethical and economic issues regarding the sale and rental of breast pumps:

A lot of LCs have conflicts. They’re selling products that mothers maybe don’t need and might not even have thought of. Yet, the culture is demanding them, so the mothers are going to get them elsewhere. Maybe they’ll get a better product and at least some instructions with the LC. Maybe the LC has one line of products, and another line of products would be better for that mother. It’s a real fine line.

Another risk of breast-pump rentals mentioned by the LCs included the loss of income due to stolen or lost breast-pump rentals by their customers. However, as the LCs noted, there is often the availability of insurance to protect against such losses.

DISCUSSION

Technology has been integral to the health care of humans. It is generally assumed that technological objects are neutral themselves, attaining their worth by virtue of how human beings use or misuse them. Sandelowski (1996) proposes that, despite how a technological object is used, it might exert a significant force on humans that may be independent

from what was intended. For example, a monitor can have mesmerizing effects on a nurse who tends to focus on the monitor rather than on the patient. The presence of resuscitation equipment or a breast pump in the room of a new mother may also send an unintended message. The question is whether or not the visibility of equipment, such as a breast pump, serves to empower and strengthen or undermine a woman's breastfeeding confidence, which has been identified as a significant predictor of breastfeeding duration (Papinczak & Turner, 2000). In addition, Sandelowski (1993) expresses concerns about technology in terms of the potential adverse sequelae that may result from its use. Some of the negative consequences that may occur are loss of some skills in favor of others (e.g., manual expression); an undesirable dependency on technology; and the potential for objectifying persons with a focus only on body parts, losing the essence of holistic care.

According to the LCs in the present study, many of the mothers they encountered expressed fears about having "enough" breastmilk. These findings are consistent with those of Dykes (2005), who interviewed 61 women who had elected to breastfeed at two hospitals in England. Dykes found that the women tended to focus on breastfeeding as a "productive project" (p. 2286), which reflected mistrust with their own bodies and an emphasis on breastmilk for its nutritional and immunological benefits rather than the interpersonal and bonding aspects of the breastfeeding process. Dykes (2005) stated, "Women appear to conceptualize their breasts as potentially faulty machines. . ." (p. 2287). One of the ways to deal with a "faulty machine" is to replace it with another.

The view of breastfeeding as a "project" appears to continue for some mothers who return to the workforce. Avishai (2004, 2007) interviewed 15 middle-class, well educated, American mothers living in the San Francisco area and working outside the home. She found that these women had to carefully negotiate working and pumping as a planned project that required intensive energy and time, which often led to ambivalence and conflict with their own bodies, as opposed to an enjoyable and empowering practice. Avishai (2007) reported, "They did not expect breastfeeding to just happen, nor did they trust their bodies to know intuitively what to do" (p. 141). She described this as a gap between viewing the body as a "feeding machine" and "an intuitive trust in lactating bodies" (p. 143). In

response to these fears, purchasing electric breast pumps prior to birth may be the norm for a large segment of middle-class mothers, despite a significant monetary cost. Some experts report that simply having a breast pump increases breastfeeding (Chamberlain, McMahon, Philipp, & Merewood, 2006). Others feel that since breast pumps have become available, LCs rely too much on the data obtained from pumping, rather than on careful observation of the breastfeeding couple (Clements, 2007).

Mothers have reported that the ability to follow the numbers by more precisely measuring breastmilk is a benefit of using breast pumps. The desire to quantify breastmilk through pumping was also illustrated by Dykes's (2002) study of British mothers who appeared to be preoccupied with breast pumps and found the quantity to be either reassuring or a cause for concern. This dilemma also is reflected in the ambivalence of some LCs who suggest breast-pump practice to mothers in the initial hours or days after childbirth.

In the present study, the LCs' description of mothers' focus on control of the production of breastmilk through the use of breast pumps supports the view expressed by Van Esterik (1996): "Breast pumps contribute to the medicalization of breastfeeding and emphasize breastmilk as a product rather than breastfeeding as a process" (p. 273). Blum (1993) proposed that the medicalization and commercialization of breastfeeding has created a disembodied, mechanistic view, which promotes the premise that giving the infant pumped breastmilk is equivalent to the breastfeeding experience. This view negates the emotional and bonding aspects of breastfeeding and the benefits that mothers and babies derive from the infant sucking at the breast. Sweet (2006) also discussed this focus on *product* as "objectification" of breastmilk after she examined the breastfeeding experiences of 17 parents of preterm infants. Sweet found that, after breastmilk was expressed from the body, it was considered as a "separate entity" (p. 7) and a "valued object" (p. 8) similar to gold. Sweet proposed that the lack of attention to maternal-infant interaction during breastfeeding influences parental and professional attitudes and undermines health professionals' support of at-breast feedings.

The need to control breastfeeding through technology can be compared to a similar phenomenon in childbirth, in which research of women's experiences suggests that medical technology may minimize the importance of maternal roles and the

ability of mothers to control their own body and birth experience (Sandelowski, 1994). According to Davis-Floyd (1994), the intent of technology is to provide a birth that is “more controllable, predictable, therefore safer” (p. 6). Davis-Floyd describes this drive to control or improve nature as a “technocratic imperative” (p. 7) that is based on fear. In childbirth, it is the fear of complications; for breastfeeding, it may be the fear of insufficient milk. With fear comes the need to control by deconstructing the process into segments and, then, improving each segment through technology. The problem is that improvement over the natural process is not guaranteed, and one set of technology is likely to create a need for rescue with more technology (Davis-Floyd, 1994). Kroeger (2004) examined the impact of technology during birthing on breastfeeding, describing it as a “cascade of interventions” (p. 46) in which oxytocin protocols, electronic fetal monitoring, pain medication, anesthesia, and assisted or surgical birth can contribute to breastfeeding difficulty.

STUDY LIMITATIONS

Any generalizations from findings in the present qualitative study have been made cautiously due to the small sample size. Another limitation is the status of all of the participants as volunteers. Thus, the effect of the intervention can only be extrapolated to LCs willing to take part in such interviews. The sample also did not include all types of LCs, such as registered dietitians or those who worked in Women, Infants, and Children clinics or for breast-pump companies—LCs who may have had different perspectives. However, with an emphasis on describing, understanding, and explaining complex phenomena, this type of qualitative research helps construct and develop future theories and conceptual frameworks and generate hypotheses to explain phenomena which have had limited previous research.

CONCLUSIONS AND IMPLICATIONS FOR PRACTICE

Today’s changing view of breast pumps as a necessity instead of a luxury may be worrisome in terms of how this technology has expanded or contracted mothers’ and LCs’ capabilities, expectations, and options. All of the LCs in this study agreed that they would continue to recommend breast pumps to “slice through” breastfeeding problems and issues; however, as with a double-edged sword, they were aware that indiscriminate use of breast pumps has its risks.

Has breastfeeding technology fundamentally changed the practice of LCs and become the hallmark of breastfeeding support? Is the breast pump creating more work? Are LCs relying more heavily on breast pumps rather than on close observation, the skill of manual expression, and informational and emotional support to optimize the quality of the latch and pattern of direct breastfeeding? Do breast pumps provide working mothers with more freedom or greater dependency by inviting them to go distances they normally could or would not choose? Through contemplative discussion and further research, these questions may be answered.

There also is a need for research to evaluate the impact of the use of breast pumps during early postpartum on mothers’ self-confidence and the duration of breastfeeding. Why are more mothers of term infants choosing only to pump and bottle-feed breastmilk rather than feed at-breast, and what are the outcomes related to this practice? Health-care providers also need to be able to accurately provide mothers with up-to-date information on the benefits and risks of this choice in a manner that is sensitive to mothers’ feelings and respectful of their decisions (Buckley & Charles, 2006).

With the increased involvement of LCs in the marketing and sales of breast pumps, it is time to consider the effect of the device’s increased visibility on mothers’ possible perceptions that breast pumps are integral to the process of breastfeeding. A need exists also for further discussion within the profession on the reliance of some LCs on breast pumps for economic survival and on how to modify this dependency. Some have called for further consideration of professional journals’ advertisement and promotion of breast pumps (Sachs, 2003).

Most LCs may use whatever tools are at their disposal to assist mothers in reaching their breastfeeding goals. The challenge is determining when and how to use breast pumps and other assistive devices

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in a manner that balances the resolution of breastfeeding problems with the support of mothers' self-confidence in breastfeeding. Many LCs are also confronted with the difficulty of maintaining competency in the use of manual expression and/or breast pumps while, at the same time, demonstrating compassion and commitment to the goal of increasing breastfeeding duration.

It is hoped that an awareness of LCs' perceptions of breast pumps can allow them to stand back and gain perspective on how they arrived at a point where pumps seem to be more and more central to the breastfeeding process. By identifying important issues, they may come closer to achieving the goal of increasing initiation and duration of breastfeeding. Any interference with the natural process of breastfeeding should do more good than harm.

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