

---

Continuing Education Module

# A Changing Landscape: Implications of Pregnant Women's Internet Use for Childbirth Educators

Amy M. Romano, MSN, CNM

## ABSTRACT

Internet use among pregnant women is common and frequent, while attendance at childbirth education classes appears to be on the decline. This article explores why women turn to the Internet in pregnancy and how Internet use may affect their knowledge, attitudes, and behaviors. It suggests strategies for engaging women's interest in the Internet and describes how doing so may help increase the effectiveness of "traditional" childbirth education while mitigating the potentially overwhelming and confusing aspects of Internet use.

---

*Journal of Perinatal Education*, 16(4), 18–24, doi: 10.1624/105812407X244903

**Keywords:** childbirth education, Internet, information technology, pregnancy, support networks

W

*Lamaze International has created an independent study based on this article. Please visit the Lamaze Web site ([www.lamaze.org](http://www.lamaze.org)) for detailed instructions regarding completion and submission of this independent study for Lamaze contact hours.*

## INTRODUCTION

*Listening to Mothers II*, a nationwide survey of women who gave birth in 2005, revealed a trend that is increasingly apparent to many birth professionals: More than three fourths of childbearing women turn to the Internet for information about pregnancy and birth (Declercq, Sakala, Corry, & Applebaum, 2006). In fact, 16% of first-time mothers and 13% of experienced mothers rated the Internet as their most important information source. Among respondents who used the Internet at all in pregnancy, frequent use was the norm. The

average woman reported 20 visits online to get pregnancy and birth information during her pregnancy. However, nearly 1 in 5 (19%) reported at least 100 such Internet visits during pregnancy.

Data from other surveys of Internet use corroborate the *Listening to Mothers II* findings. A 2007 Harris Poll found that 71% of U.S. adults had searched for health information online, and three fourths of those individuals had done so once or more often in the previous month (Harris Interactive, 2007). Of the 84% of women in a Swedish survey who had sought pregnancy information online, the median number of searches per month was four, with some women reporting going online for pregnancy information as often as twice each day (Larsson, 2007). Internet users appear to consider the health

In fact, 16% of first-time mothers and 13% of experienced mothers rated the Internet as their most important information source.

information they find online to be reliable. Eighty-six percent of those in the Harris Poll who had ever looked online for health info said the information they found was “very” or “somewhat” reliable (Harris Interactive, 2007). Approximately three fourths of the Swedish survey respondents (exact figure not reported) rated the pregnancy-related information they found online to be moderately or highly reliable (Larsson, 2007).

The Internet is a fixture in childbirth preparation today, and its influence is unlikely to diminish in the future. This article examines the impact of the Internet on pregnant women’s attitudes and experiences. It further explores how Internet use may alter the landscape of childbirth preparation for both expectant parents and childbirth educators. Finally, this article suggests strategies childbirth educators can use to engage women’s Internet use to reinforce messages of confidence, normalcy, wellness, and evidence-based maternity care.

#### **WHEN AND WHY DO PREGNANT WOMEN TURN TO THE INTERNET?**

A qualitative study of Dutch women who were pregnant or trying to conceive revealed that the women who relied on the Internet for pregnancy information did so primarily because of its anonymity (Szwajcer, Hiddink, Koelen, & van Woerkum, 2005). The ability to seek information in private may be a significant advantage in early pregnancy when a woman may not want to share the news of her pregnancy with others and when she may not yet have established prenatal care. Eighty-three percent of *Listening to Mothers II* respondents learned that they were pregnant by taking home-pregnancy tests (Declercq et al., 2006). Although the women discovered their pregnancies at an average of 5.6 weeks, they did not begin prenatal care until, on average, the ninth week of pregnancy. The immediate availability and ability to obtain information privately, therefore, render the Internet particularly suitable for early pregnancy. Indeed, a survey of Swedish pregnant women found that most respondents (54%) reported that their heaviest Internet use was in early pregnancy. Not surprisingly, online tools that calculate a woman’s estimated due date are among the most ubiquitous features targeted to pregnant women on the Internet. They allow women to find an answer to one of the first questions they face. Online tools also serve to introduce new members of the pregnancy “market” to Internet-based information as well as commercial goods

and services. Loyalty to a specific Web site is often clinched when a woman then signs up to receive weekly e-mails customized to her stage of pregnancy.


The anonymity of the Internet may continue to be appealing beyond the first trimester and even after birth because many of the common changes and discomforts of pregnancy and the postpartum period are considered private matters. Women may turn to the Internet when they have questions about breast changes, bowel and bladder concerns, sex and sexuality, vaginal bleeding and discharge, or emotional changes in pregnancy and early parenthood, for example. Many questions posed on online discussion forums, where women may remain anonymous, begin with “TMI,” an Internet abbreviation for “too much information” that signifies that the person believes the subject matter may be unpleasant to some readers.

Although the evidence suggests anonymity is a critical factor driving Internet use, women undoubtedly turn to the Internet because of its convenience and because it is an effective information-seeking tool. Women can access the Internet instantly from home, the workplace, and, increasingly, public spaces that provide wireless access. When concerns arise, a quick search will often yield plenty of information sources without the hassle of arranging an appointment or reaching a busy care provider by phone.

Beyond providing private, ready access to information, the Internet serves several other purposes for women in pregnancy. These purposes can be generally categorized as communication, community, and purchasing (Dickerson, 2006). Increasingly, sites targeting childbearing women, mothers, or both, serve several or all of these purposes simultaneously. They also tend to blend entertainment—such as celebrity baby news, interactive polls and quizzes, baby-naming tools, and even baby horoscopes—with health-oriented content.

#### **Communication**

Online health communication was once defined as sending e-mail about health matters to family, friends, or health-care providers (Dickerson, 2006). However, advances in Internet technology and access have enabled an evolving breed of communication. It no longer requires computer-programming knowledge or any specialized software for individuals to contribute content to the Web. Online journals (Web logs or “blogs”) are ubiquitous and growing, and photos and videos—once shared only with

 Lamaze members can view the entire report of the *Listening to Mothers II* survey by logging in to the Lamaze Web site ([www.lamaze.org](http://www.lamaze.org)). Others can purchase the full report from the Childbirth Connection Web site ([www.childbirthconnection.org](http://www.childbirthconnection.org)), where the Executive Summary of the report is also available to the public.

Perhaps more significant than women's ability to *share* their own stories and experiences is their ability to *access* those of others, including strangers.

friends and family—are increasingly shared with the larger online community via Web sites such as Flickr.com for photos and YouTube.com for videos (Center for the Digital Future, 2007). Much of this new breed of content is generated by or aimed at childbearing women. For instance, an August 2007 search of Flickr.com yielded over 73,000 photographs labeled “birth.” There are also a growing number of sites where women can contribute their birth stories (Bylund, 2005).

Perhaps more significant than women's ability to *share* their own stories and experiences is their ability to *access* those of others, including strangers. Many women now see their first video of “real” childbirth, not in childbirth education classes, but on YouTube.com, where nearly 11,000 videos were labeled “birth” in August 2007. Moreover, while only a few years ago birth stories were hard to come by, women may now access thousands of publicly available birth stories on the Web. Although storytelling can be empowering and effective (Lothian, 2007), birth stories depicting medicalized births may reinforce the perceived authority of maternity-care providers and the inevitability of medical intervention, especially if the reader does not understand the larger context of a story. A 2005 analysis of 285 randomly selected online birth stories suggests that birth stories too often demonstrate a lack of personal autonomy and informed decision-making. The analysis revealed that the care provider was the sole or initiating decision-maker in 68% of birth stories (Bylund, 2005).

### **Community**

Women naturally seek support and a sense of community in pregnancy and motherhood. The Internet may offer a unique opportunity to build community that is not possible outside of the virtual world. Internet discussion forums (sometimes called “chat rooms”) enable women to connect with one another and are often structured to allow women with common interests or circumstances to convene. For example, online “due-date clubs” where women due to give birth in the same month are available on most discussion forums targeted to pregnant women. These virtual communities often

persist into the baby's infancy or even toddlerhood, providing women a network of support, a place to vent, and, often, friendships that may transition into “real-life” relationships. A 2007 survey of Internet users found that the likelihood a person will make a friend online and, then, meet in person has doubled since 2000, and that the average user has met an Internet friend in person at least once (Center for the Digital Future, 2007).

Online discussion forums also provide a source of needed support for women with special circumstances such as postpartum depression, pregnancy complications, or parenting special-needs children. Because these conditions may not be common or visible in one's own community, the Internet provides a unique opportunity to connect with women encountering similar circumstances. The Internet also seems to drive growth—or at least visibility—of niche birthing and parenting subcultures. Sandra Boodman, a reporter for *The Washington Post*, calls “freebirthers” (women who plan unassisted home births) “a community born online,” saying the Internet has enabled them “to form virtual communities, allowing them to communicate, offer advice and support—and normalize for themselves a fringe practice” (Boodman, 2007).

### **Purchasing**

There are more and more goods, including health and safety products, as well as typical consumer items, marketed to pregnant women and new mothers. Increasingly, women register for baby-shower gifts on Internet registries. They also contribute and read reviews of pregnancy and parenting products on popular retail Web sites such as Amazon.com. The Internet has apparently enabled the rapid growth of several categories of goods and services that were once hard to come by, including natural parenting goods such as cloth diapers and baby carriers and slings, as well as customized photo gifts and birth announcements.

### **THE IMPACT OF INTERNET USE ON PREGNANT WOMEN'S ATTITUDES, BEHAVIORS, AND EXPERIENCES**

There are very little data on the impact of Internet use on health behaviors or attitudes, and nearly all of the available research pertains to chronic illness, cancer, or other medical conditions, rather than on pregnancy and birth. A systematic review of information-communication technology interventions performed in outpatient settings or at hospital

discharge found that patients exposed to such interventions felt more confident and empowered, their knowledge increased, and their health status improved (Akesson, Saveman, & Nilsson, 2007). However, self-directed Internet use at home may yield very different results from controlled interventions where the patient accesses a specific resource, sometimes in the presence of health-care personnel. A 2006 report from the Pew Internet and American Life Project suggests that, although most people experience positive results when accessing health information online, some are troubled by the experience (Fox, 2006). Researchers gave survey respondents eight different ways—four positive and four negative—to describe how they felt during their last online search for health information. Nearly three fourths (74%) said they felt reassured that they could make appropriate health-care decisions, and more than half felt confident to raise new questions or concerns with their health-care providers (56%), felt relieved or comforted by the information they found (56%), or felt eager to share their new health or medical knowledge with others (51%). However, 1 in 4 (25%) felt overwhelmed by the amount of information they found online, and nearly as many felt frustrated by a lack of information (22%) or were confused by what they found (18%). Ten percent felt frightened by the serious or graphic nature of the information they encountered online.

The 2007 Harris Poll of adults seeking health information on the Internet found that most (58%) discussed the information they found with a health-care provider (Harris Interactive, 2007). However, the only survey to ask the same question of pregnant women revealed that 70% did *not* talk to their care providers about health information they found online (Larsson, 2007).

No study of Internet use has examined its impact on clinical outcomes. However, in the *Listening to Mothers II* survey, first-time mothers who gave birth vaginally were more likely than those who gave birth by cesarean section to have rated the Internet as their most important source of pregnancy and birth information (Declercq et al., 2006).

### **SIFTING THROUGH IT ALL: THE ROLE OF THE CHILDBIRTH EDUCATOR**

Most likely, the effect of the Internet on a pregnant woman's attitudes, beliefs, and behaviors depends on her ability to make sense and meaning of what she finds online. Childbirth educators and other

Childbirth educators and other birth professionals may play an important role in helping women reap the potential beneficial effects of Internet use and preventing them from becoming overwhelmed by or anxious about their online experiences.

birth professionals may play an important role in helping women reap the potential beneficial effects of Internet use and preventing them from becoming overwhelmed by or anxious about their online experiences. In order to effectively influence women's online experiences, childbirth educators must have a basic understanding of Internet technology and resources and learn to actively engage—rather than ignore—women's interest in the Internet.


#### ***Know What's Out There***

Childbirth educators should know the common pregnancy and birth Web sites that women visit (see Boxes 1–3). Spending a little time online familiarizing oneself with pregnancy resources is a good way to quickly take the pulse of the online environment. Childbirth educators may also query their students, formally or informally, to find out what sites they visit and why. Every childbirth educator should have a short list of their favorite Web resources to recommend to clients (see Box 1 and Box 2.) These should be consistent with the Lamaze philosophies of pregnancy, birth, and parenting and should provide evidence-based information whenever possible.

#### ***Offer Guidance***

Although women perceive the information they read to be reliable, much of what is on the Internet is outdated or even erroneous. Even the information that is factual and up-to-date may be presented from a medicalized model of pregnancy and birth rather than from a philosophy of normalcy and empowerment. Childbirth educators can help steer women to confidence-building, evidence-based information by encouraging them to ask the following questions of any online resource:

***Who pays for the site?*** By determining who maintains a site, a user will be able to better understand its purpose and philosophy and detect potential sources of bias. Unfortunately, information about the sponsoring organization or individual is not always presented clearly. Some sites offer a page—often titled “About Us”—that provides information about the sponsoring organization. In the

 To view Lamaze International's philosophies of pregnancy, birth, and parenting, log on to the Lamaze Web site ([www.lamaze.org](http://www.lamaze.org)).

## BOX 1

### Selected Electronic Resources from Lamaze International

All of the following are available at Lamaze International's Web site ([www.lamaze.org](http://www.lamaze.org)):

- *Care Practice Papers and Tip Sheets* – designed to help women understand and access the care practices that support normal birth.
- *The Normal Birth Forum, featuring Henci Goer* – where expectant parents and birth professionals can get evidence-based answers to their questions about pregnancy and birth.
- *The Giving Birth With Confidence Blog* – where the authors of *The Official Lamaze Guide* muse about normal birth, confidence, and trends in maternity care.
- *Birth Network Directory* – designed to connect expectant and new parents with like-minded individuals and help them locate mother-friendly maternity-care services in their own communities.
- *Confident Pregnancy – Week by Week* (in development) – a customized, weekly e-mail service that will provide women with confidence-building and evidence-based information throughout their pregnancies.
- *Interactive, Evidence-Based Birth Planning Tool* (in development) – designed to help women choose care practices based on the best available evidence.

absence of such a page, the Web site address (URL) can offer some clues. Commercial sites—those with URLs ending in “.com”—rely on product sales, advertising, or both to remain financially viable, while not-for-profit sites—those with URLs ending in “.org”—are mission-driven and often rely on grants or membership fees. Locating and reviewing the site's advertising policy may help determine the role of advertiser influence in content. Site sponsors should indicate that they do not allow advertisers to influence the site's contents. Unfortunately, this is not the standard. For some commercial sites, the entire business model revolves around offering advertiser-driven content disguised as editorial copy.

As low-cost and low-tech ways to build Web sites become more available, sites are increasingly sponsored by individuals. These sites may or may not offer excellent information and advice. Individuals who reveal their identity, offer credentials, and provide a means of contacting them may be more trustworthy than those who do not.

## BOX 2

### Selected Recommended Web Sites

- **Childbirth Connection ([www.childbirthconnection.org](http://www.childbirthconnection.org))**  
The most extensive collection of evidence-based resources on the Internet, with sections for expectant parents as well as childbirth professionals.
- **Coalition for Improving Maternity Services ([www.motherfriendly.org](http://www.motherfriendly.org))**  
Provides information and tools related to mother-friendly maternity care.
- **DONA International ([www.dona.org](http://www.dona.org))**  
Answers common questions about the role of doula in labor, birth, and the postpartum period and provides an interactive doula-locator tool.
- **La Leche League International ([www.lalecheleague.org](http://www.lalecheleague.org))**  
Offers a large repository of breastfeeding information and advice, as well as a meeting locator.
- **Mothering Magazine Online ([www.mothering.com](http://www.mothering.com))**  
Provides the largest online community dedicated to natural pregnancy and parenting, including a forum for childbirth educators and other birth professionals.
- **MyMidwife.org ([www.mymidwife.org](http://www.mymidwife.org))**  
A consumer-oriented site from the American College of Nurse-Midwives; provides articles and downloadable handouts on a variety of pregnancy and birth topics.

**Is the information current and supported by good-quality evidence?** When authors present factual information, they should provide sources and note when the page or information was last updated. Simply citing an expert such as a doctor is not adequate evidence that the information is factual or reliable.

**What user information is collected and why?** Sites may require users to register, providing personal information in order to access interactive or customized features. However, every site should provide clear information about how they will and will

## BOX 3

### Other Popular Pregnancy, Birth, and Parenting Web Sites

- [BabyCenter.com](http://BabyCenter.com)
- [Pregnancy.com](http://Pregnancy.com)
- [ParentsPlace.com](http://ParentsPlace.com)
- [BirthStories.com](http://BirthStories.com)
- [WebMD.com/baby](http://WebMD.com/baby)
- [Pregnancy.About.com](http://Pregnancy.About.com)

not use such information, including how they protect privacy and whether they sell registration information to third parties. Expectant parents represent a vast potential market for goods and services. Companies that sell infant formula are particularly aggressive in efforts to market directly to pregnant women with coupons, free samples, and other appealing offers, practices that are banned by the “International Code of Marketing of Breast-milk Substitutes” (World Health Organization, 1981). The Internet may play a role in enabling formula companies to access the personal information of an increasing proportion of expectant mothers (Walker, 2001). As direct marketing practices become increasingly prevalent and sophisticated, childbirth educators may wish to address with students the potential detrimental impact of such marketing on breastfeeding outcomes and encourage women to guard their personal information online.

***How does the information make you feel?*** Aside from determining the reliability and accuracy of information on the Internet, women should be encouraged to notice their emotional and intellectual responses to what they find online. Childbirth educators should guide women to ignore or reject content that increases their anxiety, decreases their confidence, or contradicts common sense. Alternatively, women may choose to bring that content to the attention of the childbirth educator, a care provider, or another professional and ask for help sorting through the confusion or anxiety the content causes.

#### ***Engage Women’s Interest in the Internet***

Cleverly engaging, rather than ignoring, women’s interest in and use of the Internet may help reinforce content covered in childbirth education classes. Conducting an online “scavenger hunt” for answers to pregnancy and birth questions, helping students critique the decision-making process depicted in a birth story found online, and facilitating a discussion about an entry on a discussion forum or blog are examples of activities childbirth educators can incorporate into classes. Outside of class, educators can e-mail class members, offering links to high-quality sites or forwarding, with commentary, items of interest such as a recent posting on the Giving Birth With Confidence Blog (see Box 1) or an empowering birth story.

#### ***Find Your Own Voice on the Web***

As discussed previously, current Internet trends have increased the ability of those without information-

technology expertise to contribute content to the Web. Childbirth educators can find their “voice” online with simple activities that need not require significant time or effort. Some examples include writing book and product reviews on sites such as Amazon.com, participating in discussion forums such as those provided by Lamaze International, or posting online comments to blog entries. After a childbirth educator is familiar with the online environment, she may want to create her own blog or establish a personal page on social networking sites such as MySpace.com or FaceBook.com. In addition to providing a “soap box” for sharing information about pregnancy, birth, and early parenting, such sites can be inexpensive marketing tools for childbirth education classes.

#### ***What the Future Holds***

Internet technology is rapidly changing, and health-care applications are just beginning to be realized. The community aspects of the Internet are likely to continue to expand, representing a rich source of support for expectant and new parents. The increased availability of high-speed Internet access and the decreasing cost of data storage are likely to further enable multimedia, content-sharing applications such as digital photo and video sites.

The power of the Internet to put control of health care in the hands of consumers is just beginning to take shape and is likely to evolve quickly over the next several years. For example, a movement is afoot to establish Web-based, consumer-controlled, electronic health records, intended to increase patient safety for people with multiple medical conditions, specialist providers, and prescription medications (Lohr, 2007). Consumers may some day be able to have a personal health page where they can receive customized health advice, order refills of prescriptions, access support networks, and keep up-to-date on health news all from one portal.

Consumers may also soon be able to gain greater access to information about health-care providers and facilities. A grassroots effort has given way to TheBirthSurvey.com, a project intended to increase transparency in maternity care. Women who have given birth recently can rate their providers and provide feedback about their experiences in a survey grounded in the principles of mother-friendly maternity care. Expectant parents can access the feedback, as well as facility-level statistics such as intervention rates, in order to decide where and with

Childbirth educators can help provide needed context for information found online, as well as debunk erroneous or misleading claims.

whom to give birth. A pilot phase of the project is underway in New York City, with plans for national expansion in 2008.

## CONCLUSIONS

Internet use among pregnant women is common and frequent, while attendance at childbirth education classes is apparently on the decline. In the 4 years between the first and subsequent *Listening to Mothers* surveys, participation in childbirth classes dropped from 70% to 56% among first-time mothers and from 19% to 9% among experienced mothers (Declercq et al., 2006; Declercq, Sakala, Corry, Applebaum, & Risher, 2002). Childbirth educators need not view the Internet as competition, despite its potential use for information and community-building, which were once squarely in the realm of the childbirth education classroom. Cleverly incorporating Internet use into one's activities within and outside of classes may help increase the effectiveness of "traditional" childbirth education while mitigating the potentially overwhelming and confusing aspects of Internet use. Childbirth educators can help provide needed context for information found online, as well as debunk erroneous or misleading claims. Finally, childbirth educators can steer women to high-quality, evidence-based sources by offering well-informed site recommendations as well as guidelines for evaluating what women find on their own.

## REFERENCES

Akesson, K. M., Saveman, B. I., & Nilsson, G. (2007). Health care consumers' experiences of information communication technology—A summary of literature. *International Journal of Medical Informatics*, 76(9), 633–645.

Boodman, S. G. (2007, July 31). Do-it-yourself delivery. [Electronic version]. *The Washington Post*, p. HE01. Retrieved August 27, 2007, from <http://www.washingtonpost.com/wp-dyn/content/article/2007/07/27/AR2007072702164.html>

Bylund, C. L. (2005). Mothers' involvement in decision making during the birthing process: A quantitative analysis of women's online birth stories. *Health Communication*, 18(1), 23–39.

Center for the Digital Future. (2007). *Highlights: 2007 USC-Annenberg digital future project*. Los Angeles: University of Southern California, Annenberg School. Retrieved October 21, 2007, from <http://www.digitalcenter.org/pdf/2007-Digital-Future-Report-Press-Release-112906.pdf>

Declercq, E. R., Sakala, C., Corry, M. P., & Applebaum, S. (2006). *Listening to mothers II: Report of the second national U.S. survey of women's childbearing experiences*. New York: Childbirth Connection.

Declercq, E. R., Sakala, C., Corry, M. P., Applebaum, S., & Risher, P. (2002). *Listening to mothers: Report of the first national U.S. survey of women's childbearing experiences*. New York: Maternity Center Association (now Childbirth Connection).

Dickerson, S. S. (2006). Women's use of the Internet: What nurses need to know. *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, 35(1), 151–156.

Fox, S. (2006). *Online health search 2006*. Washington, DC: Pew Internet & American Life Project. Retrieved October 21, 2007, from [http://www.pewinternet.org/PPF/r/190/report\\_display.asp](http://www.pewinternet.org/PPF/r/190/report_display.asp)

Harris Interactive. (2007). *Harris poll shows number of "cyberchondriacs"—adults who have ever gone online for health information—increases to an estimated 160 million nationwide*. Retrieved August 25, 2007, from [http://www.harrisinteractive.com/harris\\_poll/index.asp?PID=792](http://www.harrisinteractive.com/harris_poll/index.asp?PID=792)

Larsson, M. (2007, April 2). A descriptive study of the use of the Internet by women seeking pregnancy-related information. *Midwifery*. [Epub ahead of print: doi: 10.1016/j.midw.2007.01.010].

Lohr, S. (2007, August 14). Google and Microsoft look to change health care. [Electronic version]. *New York Times*. Retrieved August 27, 2007, from <http://www.nytimes.com/2007/08/14/technology/14healthnet.html?ex=1188532800&en=bb936cae12b3a1f5&ei=5070>

Lothian, J. (2007). Navigating the maze—Selling normal birth: Six ways to make birth easier. *The Journal of Perinatal Education*, 16(3), 44–46.

Szwajcer, E. M., Hiddink, G. J., Koelen, M. A., & van Woerkum, C. M. (2005). Nutrition-related information-seeking behaviours before and throughout the course of pregnancy: Consequences for nutrition communication. *European Journal of Clinical Nutrition*, 59 (Suppl. 1), S57–S65.

Walker, M. (2001). *Selling out mothers and babies: Marketing of breast milk substitutes in the USA*. Weston, MA: National Alliance for Breastfeeding Advocacy.

World Health Organization. (1981). *International code of marketing of breast-milk substitutes*. Geneva, Switzerland: Author. Retrieved September 15, 2007, from [http://www.who.int/nutrition/publications/code\\_english.pdf](http://www.who.int/nutrition/publications/code_english.pdf)

---

AMY ROMANO is a certified nurse-midwife and author. She is also the Perinatal Research and Advocacy Coordinator for the Lamaze Institute for Normal Birth ([www.lamaze.org](http://www.lamaze.org)).