

Breastfeeding Information in Pediatric Textbooks Needs Improvement

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Abstract

The objective of this study is to determine if breastfeeding information in general pediatric textbooks used in the United States is accurate and up-to-date. Seven pediatric textbooks published between 1999 and 2002 were reviewed. Three reviewers examined breastfeeding content in each text independently. Using a standardized scoring sheet, each book was evaluated for inclusion of 15 basic breastfeeding criteria. Of the 15 criteria scored, the mean number present in each textbook was 11. The mean number of criteria that were correct was 7.6 (3.4 for incorrect or inconsistent criteria). The mean number of criteria omitted was 4. For each of the texts, the number of correct responses divided by the number of criteria present was 7/11 (64%), 11/14 (79%), 5/11 (45%), 9/11 (82%), 11/13 (85%), 8/9 (89%), and 2/8 (25%). Thus, breastfeeding information in these texts, when not omitted, is highly variable and at times inaccurate and inconsistent. *J Hum Lact.* 20(2):206-210.

Keywords: breastfeeding, pediatric textbooks, breastfeeding criteria

Physician support of breastfeeding can improve breastfeeding initiation and duration rates^{1,2}; however, pediatricians are often inadequately trained in lactation. Since most mothers would turn first to their pediatrician if confronted with breastfeeding difficulties, the training of knowledgeable clinicians is important.³ However, a national survey of 736 pediatric residents found that residency training failed to prepare them for their role in breastfeeding promotion.⁴ In another survey of 1137 active Fellows of the American Academy of Pediatrics (AAP), only 37% of those responding recommended breastfeeding for 1 year (per the AAP's own guidelines), 72% were unfamiliar with the Baby-Friendly

Hospital Initiative, and most respondents called for more education on breastfeeding medicine.⁵ Forty percent of the 109 Wisconsin pediatricians responding to a statewide breastfeeding survey stated they did not feel knowledgeable about breastfeeding.⁶ Sources of breastfeeding education for pediatricians include grand round presentations, continuing medical education courses, academic journals, Internet listservs, and textbooks. Since frequently updated pediatric textbooks are considered a good source of information, all data in such texts should be reliable and up-to-date. The objective of this study is to determine if breastfeeding information in general pediatric textbooks published between 1999 and 2002 is accurate and up-to-date.

Methods

Seven pediatric textbooks, all published between 1999 and 2002, were reviewed, including *Clinical Handbook of Pediatrics*⁷; *Current Pediatric Diagnosis and Treatment*⁸; *Nelson Textbook of Pediatrics*⁹; *Oski's Pediatrics: Principles and Practice*¹⁰; *Primary Care Pediatrics*¹¹; *Rudolph's Pediatrics*¹²; and *Textbook of Clinical Pediatrics*.¹³ The 3 classic US pediatric textbooks (Nelson, Oski, and Rudolph) were chosen as well as 4 other pediatric texts that were readily available in the Boston University School of Medicine bookstore and popular among our medical students and pediatric

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residents. A pediatrician, a pediatric nurse practitioner, and a lactation consultant, all International Board Certified Lactation Consultants, examined breastfeeding content as indexed in each text and, using a standardized evaluation sheet, independently scored each textbook for the inclusion of 15 basic breastfeeding criteria. Ten of the 15 criteria were based on the AAP policy statement "Breastfeeding and the Use of Human Milk," published in 1997,¹⁴ which "sets forth the principles to guide the pediatrician and other health care providers in the initiation and maintenance of breastfeeding." Five evidence-based, fundamental clinical criteria were added from the World Health Organization's (WHO's) "Ten Steps to Successful Breastfeeding," published in 1989.¹⁵

The scores were based on the answers to 15 questions related to the inclusion of the following fundamental concepts:

1. Identify breastfeeding as the healthiest feeding choice, in accordance with the AAP statement that human milk is the "optimal form of nutrition."
2. Offer accurate guidelines on breastfeeding exclusivity by recommending exclusive breastfeeding for "approximately the first 6 months of life," in accordance with the AAP statement.
3. Offer accurate guidelines on breastfeeding duration by recommending "that breastfeeding continue for at least 12 months," in accordance with the AAP statement.
4. Advise that in accordance with the AAP statement, "breastfeeding should begin as soon as possible after birth, usually within the first hour of life."
5. Advise "continuous rooming-in" while in the hospital, in accordance with the AAP statement.
6. Recommend newborns be nursed whenever they show signs of hunger using feedback cues, or feeding "on demand," in accordance with the AAP statement.
7. Describe normal feeding patterns as being "8 to 12 times every 24 hours until satiety," in accordance with the AAP statement.
8. Explain normal elimination patterns of the infant in accordance with the AAP description of "at least 6 urinations per day and 3 to 4 stools per day."
9. Recommend that the infant be followed up within the "48 to 72 hour" period outlined in the AAP statement.
10. Recommend the use of manual expression or use of an electric breast pump in the appropriate circumstances, such as "hospitalization of the breastfeeding mother or infant," as outlined by the AAP statement.
11. Describe correct positioning techniques to ensure breastfeeding success as outlined in the educational component of the "Ten Steps."
12. Describe the "latch"—the way the infant attaches to the breast to ensure adequate milk supply—to ensure breastfeeding success as outlined in the educational component of the "Ten Steps."
13. Mention engorgement management as described in the educational component of the "Ten Steps."
14. Correctly cite the contraindications to breastfeeding as outlined by the AAP statement: galactosemia, illegal drugs, untreated active tuberculosis, HIV-positive mother (United States), and certain medications.
15. Include reference to the WHO's Baby-Friendly Hospital Initiative, launched in 1991 as the single largest international attempt in history to increase breastfeeding rates worldwide.

Responses were coded as "C" (reviewed and correct), "I" (reviewed but incorrect or inconsistent), and "O" (omitted). The reviewers evaluated each text independently and then reviewed findings. For the few discrepancies that arose, the reviewers examined information together until reaching a unanimous decision.

Results

Of the 15 criteria scored, the mean number present in the textbook was 11 (range, 8-14). The mean number of criteria present and correctly reviewed was 7.6 (range, 2-11). The mean number of criteria present in the text but presenting information that was incorrect or inconsistent was 3.4 (range, 1-6). The mean number of criteria omitted was 4 (range, 1-7). For each of the texts, the correct responses of those reviewed were as follows: 7/11 (64%), 11/14 (79%), 5/11 (45%), 9/11 (82%), 11/13 (85%), 8/9 (89%), and 2/8 (25%) ($x = 67\%$; range, 25%-89%) (Table 1). Scores dropped further if omitted criteria were included in the analysis ($x = 50\%$; range, 13%-

Table 1. Criteria

Item No.	Criteria**	Text*						
		A	B	C	D	E	F	G
1	Define breastfeeding as the healthiest feeding choice	C	C	C	C	C	C	C
2	Recommend exclusive breastfeeding for the first 6 months of life	I	I	I	I	C	O	I
3	Recommend that breastfeeding continue for at least a year or more	O	I	I	I	I	O	I
4	Recommend breastfeeding begin within the first hour of life	O	I	I	C	C	O	I
5	Advise "continuous rooming-in"	O	C	I	C	C	O	I
6	Recommend breastfeeding on demand	I	C	C	C	C	C	O
7	Recommend normal feeding patterns as 8 to 12 feeds every 24 h until satiety	I	C	O	C	C	C	O
8	Cite normal elimination patterns	C	C	O	C	I	C	O
9	Advise follow-up 48 to 72 h after going home	C	C	O	O	C	O	O
10	Recommend use of manual expression or breast pump in appropriate circumstances	C	C	C	C	C	C	C
11	Describe correct positioning techniques to ensure breastfeeding success	C	C	C	O	C	C	O
12	Describe how to teach and assess the "latch"	C	C	C	C	C	C	I
13	Mention engorgement management	C	C	I	O	O	C	O
14	Cite accurate contraindications to breastfeeding	I	C	I	C	O	I	I
15	Mention the Baby-Friendly Hospital Initiative	O	O	O	O	C	O	O
<i>Summary statistics</i>								
Reviewed and correct (total C)		7	11	5	9	11	8	2
Reviewed but incorrect or inconsistent (total I)		4	3	6	2	2	1	6
Omitted (total O)		4	1	4	4	2	6	7
Correct/reviewed, %		64	79	45	82	85	89	25
Correct/(reviewed + omitted), %		47	73	33	60	73	53	13

*The texts used were the following: A = *Clinical Handbook of Pediatrics*⁷; B = *Current Pediatric Diagnosis and Treatment*⁸; C = *Nelson Textbook of Pediatrics*⁹; D = *Oski's Pediatrics: Principles and Practice*¹⁰; E = *Primary Care Pediatrics*¹¹; F = *Rudolph's Pediatrics*¹²; G = *Textbook of Clinical Pediatrics*.¹³

**Scoring code: C = information reviewed and correct; I = information reviewed but incorrect or inconsistent; O = omission of information from text.

73%) (Table 1). In other words, using the authors' criteria, the average score for the seven textbooks reviewed would be 67%; using our criteria, the average score would be 50%. All texts identified breastfeeding as the healthiest choice and recommended use of manual expression or breast pumps in appropriate circumstances. The most incorrectly listed criteria included recommendations about exclusivity and duration of breastfeeding; the most frequently omitted criterion was mention of the Baby-Friendly Hospital Initiative.¹⁶⁻²⁰

This review found out-of-date information, errors, and inconsistent advice. The breastfeeding chapter in a widely used, general pediatric textbook⁹ addresses 11 of 15 basic breastfeeding criteria, and information on 6 of those 11 areas is incorrect or inconsistent. In addition, the breastfeeding chapter in the 1996 edition of *Nelson's Textbook of Pediatrics* is identical to the 2000 edition, despite countless new studies and a major policy statement from the AAP. This resource makes the old-fashioned recommendation for mothers to "use tight binders to maintain breast tone" and cautions that when cleaning breasts and nipples, "boric acid must not be used." Factual errors in the textbooks include the rec-

ommendation that ampicillin should be used to treat mastitis⁷ and that frozen breast milk can be used for 1 month.⁹ Some textbooks cite the AAP policy statement "Breastfeeding and the Use of Human Milk," but they do not reflect its recommendations in the text.⁷ One text offered the following inconsistent advice: "Put baby to breast within 30 minutes after birth"^{8(p 6)}; "the first feeding usually occurs by 3 hours of life, often as early as in the delivery room"^{8(p 8)}; and "breastfeeding can be started after delivery as soon as mother and baby are stable."^{8 (p 263)}

Discussion

Since the 1980s, extensive evidence-based research has documented compelling advantages of breastfeeding.¹⁴ Research also indicates that physicians are poorly trained in lactation management. However, this study found that the information in the texts to which the physicians would turn was highly variable, was at times inaccurate and inconsistent, and contained significant omissions. Clearly, one strategy to improve physician knowledge about lactation management would be to

ensure that breastfeeding chapters in pediatric textbooks provide current and accurate information.

One limitation of the study is the selection of the textbooks for review. The 3 major pediatric texts were obvious choices. We selected the other textbooks because they were readily available and popular among medical students from Boston University School of Medicine and pediatric residents in the Boston Combined Residency program. We acknowledge that information in other textbooks may be more inclusive and accurate regarding breastfeeding information.

An additional limitation is that as this is the first review of its kind, the authors developed the assessment criteria; others may believe alternative information is of equal or greater importance. The authors chose the AAP policy statement "Breastfeeding and the Use of Human Milk" and the WHO's "Ten Steps to Successful Breastfeeding" as the evidence-based gold standards in US and international breastfeeding policy. The ILCA's "Evidence-Based Guidelines to Breastfeeding Management During the First Fourteen Days," published in April 1999, is an excellent resource and could have served as a source of criteria by which to judge these texts. The WHO criteria used are similar to the ILCA guidelines.

In conclusion, pediatricians possess the prestige, power, and trust to improve breastfeeding rates²¹ but are poorly prepared in the field of breastfeeding medicine. One strategy to improve knowledge is to ensure that breastfeeding chapters in all pediatric textbooks are accurate, are up-to-date, are thorough, are evidence based, and include helpful management tips.

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Resumen

La información sobre lactancia materna en los textos de pediatría necesita mejorar

El objetivo de este estudio fue determinar si la información sobre lactancia materna en textos generales de pediatría que se usan en los Estados Unidos es preciso y actualizado. Se revisaron siete textos de pediatría publicados entre 1999 y 2002. Tres personas revisaron el contenido sobre lactancia materna en cada texto independientemente. Se usó un sistema de evaluación estandarizado, cada texto se evaluó con 15 criterios básicos sobre lactancia materna. Entre los 15 criterios, el puntaje promedio de los textos fue de 11. La media de los criterios revisados y correctos fue 7.6; revisados e incorrectos o inconsistentes fue de 3.4. La media de criterios omitidos fue de 4. Para cada texto el número de respuestas correctas/criterio presente fue así:

7/11(64%); 11/14(79%); 5/11(45%); 9/11(82%); 11/13(85%); 8/9(89%); y 2/8(25%). Los resultados de este estudio muestran que la información sobre lactancia

materna en los textos de pediatría es muy variable, algunas veces imprecisa e inconsistente, y con omisiones significativas.