

BREASTFEEDING RESEARCH

Puerto Rican Health Teachers: Attitudes Towards Breastfeeding

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Objective. The purpose of the study was to identify attitudes towards breastfeeding and support for breastfeeding in public in a group of health teachers in the Department of Education.

Method. The study design was correlational descriptive. A self-administered questionnaire was used (Cronbach's $\alpha = 0.83$) for 125 health teachers. Descriptive and inferential statistics (chi square and t test) were used for data analysis.

Results. 89.6% were women, 47.1% had 39 years of age or less, 76.4% were married, the median of years in the profession was 12.5. Only 8.8% had breastfed exclusively, 46.1% used artificial feedings exclusively, and 45.1% combined artificial milk and breast milk. A moderate/negative attitude towards breastfeeding was

shown by 53.1%. 60.3% stated they agreed or totally agreed that in order to breastfeed the mother must follow a specific diet, 36.0% agreed or totally agreed that breast milk should alternate with artificial milk, and 100% of participants do not support breastfeeding in public. No significant difference was found in the attitude scale towards breastfeeding and the gender, the age, years in the profession, and the type of milk given their children.

Conclusions. We must train teachers in the Department of Education, on a priority basis, in the field of human lactation in view of their importance for health promotion.

Key words: Human lactation, Breastfeeding, Teachers, Attitudes.

In the Puerto Rican society breastfeeding has not been the cultural norm for three generations (1, 2). Although 61.6% of our women presently initiate breastfeeding, the median duration is only 3 weeks and no categorization of the type of breastfeeding is available (2). The Puerto Rico Health Department's Breastfeeding Promotion Policy, launched in 1995, has the mission of bringing back breastfeeding as the cultural practice norm in the country (3). One of the goals of this policy is to achieve that the population of Puerto Rico conceptualize breastfeeding as a necessary process for a good health status of the mother and her child.

It is recognized that the formal education of children and adolescents in breastfeeding is vital to provide correct knowledge and develop positive attitudes to promote the

change toward breastfeeding as the cultural norm(4). Acosta-Torres et al found that a group of high school students in Puerto Rico have the intention of breastfeeding or supporting breastfeeding for their children but they have misconceptions regarding breastfeeding and poor attitudes towards breastfeeding in public (5). The Maternal and Child Health Program of the Graduate School of Public Health, the Department of Education of the government of Puerto Rico and the WIC program have joined efforts to include the breastfeeding theme in the Health Curricula of the public schools in Puerto Rico (6). The Department of Education has a total of 40,000 teachers, of which 670 are health teachers. The curricula of health is offered from the 7th grade to the 12th grade. A six-hour workshop titled "Breastfeeding: towards the cultural norm through education" was designed and offered to 125 (18.6%) teachers in three different geographical areas of the country.

The purpose of this investigation is to describe specific demographic characteristics and attitudes toward breastfeeding in a group of health teachers of the Department of Education of Puerto Rico. The results of this research will help us to modify the curricula of the next breastfeeding workshops.

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Methodology

Sample and procedure. An instrument to measure breastfeeding attitudes as part of a six-hour breastfeeding workshop evaluation was given to 125 teachers of health before the initiation of three workshops. The workshops were given during April and September of 1999, and the participants were health teachers from the Caguas, Humacao and Ponce Education Region.

Definitions. The Labbok & Krasovec definition of breastfeeding was used to describe the type of breastfeeding personal experience among the participants(7).

Measurements. The research instrument, Breastfeeding Attitudes Instrument (BAI), was designed by the researchers on the basis of the revised literature (8-19). The items were randomly placed in the scale with numbers 1-19, the sequence determined through random numbers. Content validity was tested through the use of five experts in the field of breastfeeding who were asked to evaluate each premise in terms of its adequacy with breastfeeding standards, as well as its semantics. The premises were likewise evaluated and unanimously approved by the panel of experts in the field of breastfeeding. The scale can be widely used. Requisites for administration are simple: persons of either sex who can read and write. Simple language is used. The instrument's overall reliability was 0.83 (Cronbach's α).

Data analysis. Descriptive analysis was calculated for all variables. A total score was calculated using a 4-point Lickert-type scale from 1 (strongly disagree) to 4 (strongly agree). The total possible score can range from 19 to 76, with a higher score reflecting more positive attitudes towards breastfeeding. The median of the possible score range (60 for the total instrument, 2.7 for individual items) was selected as the division between generally positive and generally negative/moderate attitudes. All quantitative data were entered on a microcomputer and analyzed by the Statistical Package for the Social Sciences (SPSSx) version 10. Unless otherwise stated, Student's t-test has been used for comparing group means and Pearson and Cramer Chi-square for comparing associations between groups.

Results

Profile of study participants. One hundred and twenty five (125) teachers from the Puerto Rico Department of Education participated in the courses on breastfeeding offered by the Division of Community Outreach and Education of the Maternal and Child Health Program,

Graduate School of Public Health, University of Puerto Rico. Of these, 89.6% (n=112) were female and 10.4% (n=13) were male. Median age was 41 years (sd=7.71), with ages ranging from 18 to 60 years. As shown in Table 1, 47.1% (n=57) were 39 years old or less.

Table 1. Distribution of Frequency and Percentage of Age Intervals Among Study Participants

Age category (years)	n	%
≤ 39	57	47.1
40-49	53	43.8
≥ 50	11	9.1
total	121	100.0

Note. missing cases = 4

With regards to civil status, 76.4% (n=94) of the participants were married at the time they participated in the training course, 13.0% (n=16) were single, 9.8% (n=12) were divorced and 0.8% (n=1) was unmarried but living with a partner.

Study participants had been teachers for an average of 12.5 years (sd=8.0). Specifically, 40.3% (n=50) had from 11 to 20 years of teaching experience, 39.5% (n=49) had 10 or fewer years of experience and 20.2% (n=25) had over 20 years of experience.

Previous personal experience with parenting and breastfeeding was also explored. We found that 83.2% (n=104) of study participants had children while 16.8% (n=21) did not. Number of children ranged from 1 to 6 with an average of 2 children (sd=1.35).

It was found that only 8.8% (n=9) of study participants breastfed exclusively, 46.1% (n=47) did not breastfeed at all, and 45.1% (n=46) breastfed partially.

Among study participants 10.7% (n=12) believe that breastfeeding should be done for three months or less, while 89.7% (n=100) believe it should extend for four months or longer.

Attitudes towards breastfeeding. Positive attitudes towards breastfeeding were present in 46.9% (n=53) of the study participants, while 53.1% (n=60) showed moderate or negative attitudes. On premise analysis the finding were as follows and detailed in Table 2:

- 34.9% of the participants disagreed or totally disagreed with the premise that breastfeeding is a natural contraceptive method.
- 30.3% agreed or totally agreed with the premise that artificial feeding makes it possible for the father to become involved with the nutrition of the baby, while breastfeeding does not.

Table 2. Results of Responses to Premises in an Attitude Scale Towards Breastfeeding

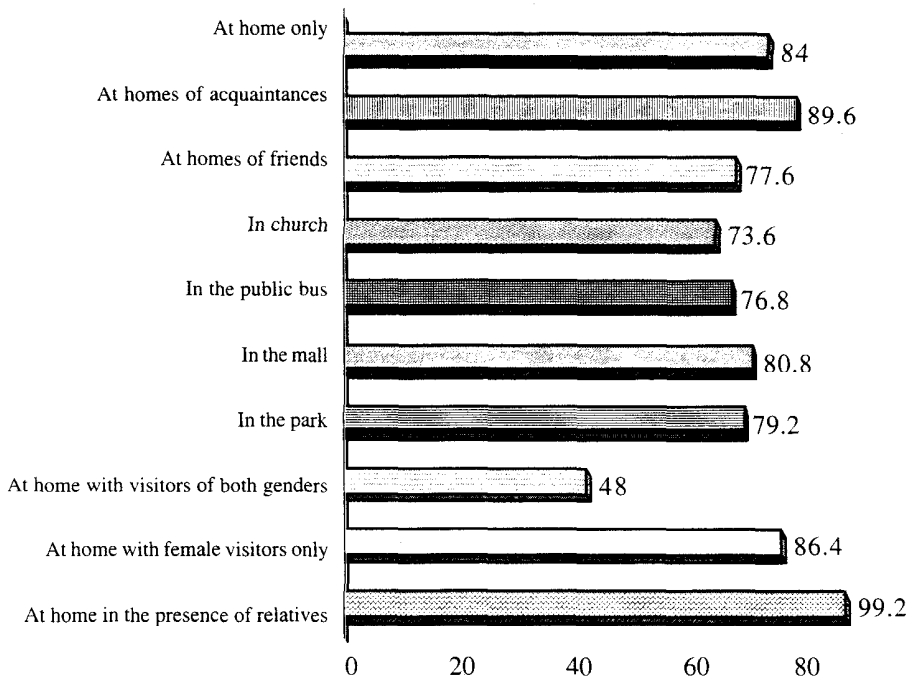
Premises	Totally Agree	Agree	Disagree	Totally Disagree
Breastfeeding establishes a bond between mother and child (n=123)	103 (83.7%)	16 (13.0%)	01 (0.8%)	03 (2.4%)
Artificial milk is an expensive feeding method (n=125)	93 (74.4%)	28 (22.4%)	03 (2.4%)	01 (0.8%)
Breastfeeding provides the best nutrition for the baby (n=125)	117 (93.6%)	06 (4.8%)	01 (0.8%)	01 (0.8%)
Breastfeeding protects the baby against infections (n=125)	109 (87.2%)	14 (11.2%)	01 (0.8%)	01 (0.8%)
Breastfeeding is a natural contraceptive method (n=123)	44 (35.8%)	36 (29.3%)	26 (21.1%)	17 (13.8%)
Artificial milk allows the father to be involved with the nutrition of the baby but breastfeeding does not (n=122)	05 (4.1%)	32 (26.2%)	48 (39.3%)	37 (30.3%)
Breastfeeding limits mother's social life (n=124)	07 (5.6%)	12 (9.7%)	49 (39.5%)	56 (45.2%)
Women know how to breastfeed instinctively (n=124)	09 (7.3%)	19 (15.3%)	52 (41.9%)	44 (35.5%)
The quantity of milk produced depends on breast size (n=124)	01 (0.8%)	06 (4.8%)	53 (42.7%)	64 (51.6%)
Breastfeeding is a difficult and painful process (n=125)	01 (0.8%)	27 (21.6%)	48 (38.4%)	49 (39.2%)
Nervous mothers cannot breastfeed their babies (n=124)	03 (2.4%)	17 (13.6%)	66 (53.2%)	38 (30.6%)
Breastfeeding makes the breasts sag (n=125)	03 (2.4%)	17 (13.6%)	70 (56.0%)	35 (28.0%)
Breastfeeding makes it harder to lose weight (n=124)	04 (3.2%)	05 (4.0%)	68 (54.8%)	47 (37.9%)
Breastfeeding mothers should follow a specific diet (n=124)	26 (20.8%)	49 (39.5%)	34 (27.4%)	15 (12.1%)
It is not possible to breastfeed and work or study (n=125)	05 (4.0%)	05 (4.0%)	54 (43.2%)	61 (48.8%)
Breastfeeding should be alternated with artificial milk (n=125)	06 (4.8%)	39 (31.2%)	51 (40.8%)	29 (23.2%)
Babies fed artificial milk are healthier (n=124)	03 (2.4%)	04 (3.2%)	68 (54.8%)	49 (39.6%)
Breastfeeding does not satisfy the baby (n= 125)	01 (0.8%)	13 (10.4%)	56 (44.8%)	55 (44.0%)
Artificial milk provides the best nutrition for the baby (n=124)	05 (4.0%)	06 (4.8%)	56 (45.2%)	57 (46.0%)

- 22.6% agreed or totally agreed with the premise that mothers know how to breastfeed instinctively.
- 22.4% agreed or totally agreed with the premise that breastfeeding is a difficult and painful procedure.
- 60.3% agreed or totally agreed with the premise that mothers must follow a specific diet in order to breastfeed.
- 36.0% agreed or totally agreed with the premise that breast milk should be offered alternately with artificial milk.

Support for breastfeeding in public. Interesting results were obtained regarding support for breastfeeding in public, with 100% (n=125) of participants against it. As shown in Fig. 1, 99.2% indicated that breastfeeding should be done only at home. To be considered as a person who supports breastfeeding in public, all alternatives should have been answered positively, except breastfeeding only at home and breastfeeding at home in the presence of women only.

Inferential analysis. No significant association was found between mean points in the attitude scale towards

Figure 1. Public Support Towards Breastfeeding



breastfeeding and gender (Table 3) or age of the participants ($X^2(2)=1.59$; $p=0.45$), years of practice as a teacher ($X^2(2)=2.08$; $p=0.35$), parenthood ($X^2(1)=0.46$; $p=0.50$), or previous personal experience with breastfeeding ($X^2(2)=1.82$; $p=0.40$). It should be mentioned, however, that among teachers whose children had been fed artificial milk exclusively, 55.8% presented negative/moderate attitudes towards breastfeeding. Teachers whose children had been breastfed, exclusively or partially, presented a higher percentage of positive attitudes towards breastfeeding (60.0% and 58.1% respectively).

Table 3. Relation Between Average Grading in Attitude Scale Towards Breastfeeding and Gender of the Participant.

Variable	n	Average	Standard Dev.	t	p
Male	13	61.2	6.0	-0.48	0.637
Female	100	62.1	6.0		

Discussion

The theory of planned behavior proposes that our beliefs and attitudes towards behavior lead us towards certain conduct or behavior (20). It is important, therefore, to encourage education as a strategy to promote change in

people's beliefs and attitudes to achieve the goal of breastfeeding as the cultural norm. The incorporation of education on breastfeeding should start in Puerto Rico's public school system as early as the pre-school level. Health education in schools should include information on the importance of breastfeeding for children's and women's health (21). Several curricula have been created and can be used as models for the development of a curriculum that fulfills Puerto Rico's cultural needs (22, 23, 24). Teachers can influence students in the development of positive

beliefs and attitudes towards breast-feeding. In order for this to take place it is necessary to train our teachers to include the topic in both natural science and social sciences courses.

The identified fact that over half of the teachers studied have moderate or negative attitudes towards breastfeeding and that none support breastfeeding in public reinforces the need for training activities such as this. The present study suggests we should revise the training program content so as to gear it towards provoking change in attitudes for more positive ones towards breastfeeding. The lack of significant association between gender, age, years in practice and the type of milk offered to their children could be due to the reduced size of the studied population. Even so, a higher percentage of positive attitudes were found among teachers whose children were exclusively or even partially breastfed versus those whose children were artificially fed.

The importance of education as a capacity-building strategy for system change is broadly known. Therefore it is important to support and empower teachers with accurate information so that they can confront their self-control and perceived power about breastfeeding. This strategy will be an important national tool for health promotion and the prevention of many diseases. As a result teachers and students will be prepared to confront negative cultural values that sexualize the woman's body.

Resumen

El propósito del estudio fue identificar las actitudes hacia la lactancia materna y el apoyo hacia la lactancia en público en un grupo de maestros de salud del Departamento de Educación. El diseño del estudio fue descriptivo correlacional. Se utilizó un cuestionario autoadministrable en 125 maestros. Se utilizaron estadísticas descriptivas e inferenciales (ji cuadrado y prueba t) para el análisis de los datos. El 89.6% eran mujeres, el 47.1% tenía 39 años o menos, el 76.4% eran casados(as), y la mediana de años ejerciendo la profesión era de 12.5. Sólo el 8.8% alimentó a sus hijos(as) con leche materna exclusivamente, el 46.1% usó fórmula solamente y el 45.1% combinó fórmula con leche materna. El 53.1% demostró una actitud negativa/moderada hacia la lactancia. El 60.3% indicó estar de acuerdo o completamente de acuerdo en que para lactar al bebé la madre debe seguir una dieta específica, el 36.0% indicó estar de acuerdo o completamente de acuerdo con que la leche materna debe alternarse con leche artificial y el 100% de los participantes no apoya la lactancia en público. No se encontró una diferencia significativa en la puntuación promedio de la escala de actitudes hacia la lactancia materna y el sexo, la edad, los años ejerciendo y el tipo de alimentación a sus hijos(as). Es necesario adiestrar con carácter prioritario a los maestros de salud del Departamento de Educación en lactancia materna dada la importancia que éstos tienen en la promoción de la salud.

References

1. Becerra JE, Smith JC. Breastfeeding patterns in Puerto Rico. *Am J Public Health* 1990;80:694-97.
2. Escuela Graduada de Salud Pública. Encuesta de Salud Reproductiva: Puerto Rico, 1995-96. Recinto de Ciencias Médicas, Universidad de Puerto Rico 1998:48-49.
3. Secretaría Auxiliar para la Medicina Preventiva y Salud Familiar. Política Pública para la Promoción de la Lactancia Materna en Puerto Rico. Departamento de Salud de Puerto Rico, 1995.
4. Canahuati J, editor. Breastfeeding: education for life. Penang, Malaysia: World Alliance for Breastfeeding Action, 1999.
5. Acosta Torres N, Vázquez V, Dávila Torres RR, Parrilla Rodríguez AM. Creencias hacia la lactancia materna y la actitud hacia apoyar la lactancia en público de un grupo de estudiantes de salud de una escuela superior de la Región Educativa de Caguas. *P R Health Sci J* 1999;18:229-39.
6. Parrilla AM, Gorrín JJ. La Lactancia Materna en Puerto Rico: patrones tradicionales, tendencias nacionales y estrategias para el futuro. *P R Health Sci J* 1999;18:223-28.
7. Labbok M, Krasovec K. Toward consistency in breastfeeding definitions. *Stud Fam Plann* 1990;21:226-230.
8. OMS/UNICEF. Protección, promoción y apoyo de la lactancia natural: la función especial de los servicios de maternidad. Ginebra 1989.
9. Gartner LM, Black LS, Eaton AP, Lawrence RA, Naylor AJ, Neifert ME, O'Hare D, Schanler RJ. Breastfeeding and the use of Human Milk. *Pediatrics* 1997;100:1035-39.
10. Lawrence RA. A review of the medical benefits and contraindications to breastfeeding in the United States. *Maternal & Child Health Technical Information Bulletin*. Arlington, VA: National Center for Education in Maternal and Child Health, HRSA 1997.p.3-6
11. Anderson JW, Johnstone BM, Remley DT. Breast-feeding and cognitive development: a meta-analysis. *Am J Clin Nutr* 1999;70:525-35.
12. Riordan JM. The cost of not breastfeeding: a commentary. *J Hum Lact* 1997;13:93-97.
13. Lawrence RA, Lawrence RM. Breastfeeding: a guide for the medical profession. 5th ed. St. Louis, MO: C V Mosby Co: 1999: 159-215.
14. Spisak S, Shapiro Gross S. Second Follow up Report: the Surgeon General's Workshop on Breastfeeding and Human Lactation. Washington, DC: National Center for Education in Maternal and Child Health, 1991.
15. Periodic Survey of Fellows. American Academy of Pediatrics Division of Child Health Research. Executive Summary #30. Pediatricians' Practices and Attitudes Regarding Breastfeeding Promotion. <http://www.aap.org/research/ps30exm.htm>
16. Botello Cabrera MT, Marín H, Vera M, Parrilla Rodríguez AM. Factores asociados al inicio, tipo y duración de la lactancia materna entre participantes y no participantes a charla prenatal de educación en lactancia materna de una institución hospitalaria. *P R Health Sci*; 18:241-89.
17. Baby-Friendly USA. The U.S. Baby-Friendly Hospital Initiative. Guidelines and Evaluation Criteria for Hospital/ Birthing Center Level Implementation. Sandwich, MA: 1996.
18. Patton CB, Beaman M, Csar N, Lewinski C. Nurses' attitudes and behaviors that promote breastfeeding. *J Hum Lact* 1996; 12:111-15.
19. Stuart-Macadam P, Dettwyler KA. Editors. Breastfeeding biocultural perspectives. New York: Aldine de Gruyer: 1995.
20. Nutbeam D, Harris E. Theory in a nutshell: A practitioner's guide to commonly used theories and models in health promotion. Australia: National Centre for Health Promotion:1998.
21. Department of Health and Human Services Office on Women's Health. HHS Blueprint for Action on Breastfeeding. Washington, DC: DHHS.
22. New York State Department of Health. A Breastfeeding Education Activity Package for Grades K-12. http://www.health.state.ny.us/nysdoh/b_feed/main.htm
23. Comisión Mixta Regional de Salud y Educación de Buenos Aires. Proyecto los contenidos de la vida – Desde la escuela hacia una sociedad que recupere el amamantamiento. <http://yabiru.fmed.uba.ar/ibfan/doc/proyecto.htm>, 24. Palma S. Proyecto Lactancia Materna en la Escuela: Experiencia piloto realizada en la Escuela Provincial N 24. <http://www.waba.org.br/wbw97/case3.htm>.