Social Capital, Acculturation, and Breastfeeding Initiation Among Puerto Rican Women in the United States

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Abstract

To examine reasons for not breastfeeding, and to identify factors associated with ever breastfeeding among Puerto Rican women, a retrospective study was done using a convenience sample of 161 low-income Latino women with children younger than 6 years. Women were recruited from the Hispanic Health Council (43.5%), the Supplemental Nutrition Program for Women, Infants, and Children (29.8%), and other places (26.7%). Participants were interviewed using a pretested questionnaire specific to the target community. Most (73%) of the respondents chose to be interviewed in Spanish. Chi-square analyses were used to examine the bivariate association between ever breastfeeding and the independent variables. Multivariate logistic regression was conducted to estimate the independent association between acculturation, social capital, and breastfeeding. Women with more social capital were more likely (odds ratio = 2.25, 95% confidence interval, 1.02-4.95) to have breastfed the index child, suggesting that social capital is an important predictor of breastfeeding initiation in this community. J Hum Lact. 20(1):39-45.

Keywords: acculturation, breastfeeding, Latinos, Puerto Rican, social capital

Within the Latino subpopulation, women of Mexican origin have been reported to have higher rates of initiation and duration of breastfeeding than do Puerto Ricans. Several factors have been reported to be associated with both the initiation and duration of breastfeeding among immigrants in the United States. In these studies, the likelihood of breastfeeding initiation was inversely associated with level of acculturation (a process in which members from one culture adapt to the values, behaviors, attitudes, and beliefs of a second culture). Other risk factors reported to negatively affect breastfeeding initiation and duration by these researchers include younger age, lower educational level, lower socioeconomic status, and lack of support from both immediate and sometimes external family and friends. Social capital defined as “features of social organization, such as trust and reciprocal help and support,” “norms, and networks, that can improve the efficiency of society, increase a community’s productive potential and co-operation for mutual benefits” has been found to be positively associated with food security as well as health outcomes (low mortality, lower rates of cardiovascular disease, and longer disability-free life). The construct of social capital has been used to assess cooperative action to address problems in a community and among its individual members in times of stress. However, we could not identify any

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study that has examined the association between social capital and the likelihood of breastfeeding in minority groups. One group that has been particularly understudied in breastfeeding determinants research is the Puerto Rican community living in the continental United States. Thus, the objectives of this article are to examine the (1) reasons that Puerto Rican women give for not breastfeeding their children, (2) association between acculturation and likelihood of breastfeeding, and (3) association of social capital with the likelihood of breastfeeding.

Methods

This study was approved by the Human Subjects Review Committee of the University of Connecticut, Storrs, and the Hispanic Health Council, Hartford, Connecticut.

Design and sample

This was a retrospective study designed to assess the association between social capital and acculturation with health, food security, and nutrition outcomes among Latinos living in Hartford, Connecticut. Project ANNA (Acculturation and Nutrition Needs Assessment) was conducted from November 1998 through September 1999. A convenience sample of 201 Puerto Rican adult primary caretakers of children younger than 6 years living in Hartford, Connecticut, provided their informed consent to participate in this study. Participants were recruited through the Hispanic Health Council (43%), Supplemental Nutrition Program for Women, Infants, and Children (WIC) (29%), Connecticut Children Medical Center (9%), word of mouth (8%), and street outreach (6%). Subjects were either interviewed at the Hispanic Health Council (11%) or at their individual homes (89%).

Data were collected using a pretested structured questionnaire with both close-ended and open-ended questions through a one-on-one interview either in English (27%) or Spanish (73%) based on respondent’s choice of language of interview. The questionnaire was developed from instruments previously used by our research group in this community and by other researchers in the field (available from the corresponding author on request). Interviews were conducted by 3 bicultural/bilingual interviewers. The data collected through the interviews included (1) sociodemographic characteristics of the household, (2) acculturation indicators, (3) food insecurity, (4) infant feeding practices and advice, (5) household’s social capital, (6) general nutrition knowledge, (7) household food preparation methods, (8) household food-purchasing patterns, (9) dietary intake of child and respondent, (10) health status of child and respondent, (11) anthropometry of child and respondent, and (12) respondent’s lifestyle behaviors (smoking, alcohol, and drug abuse). Each interview session lasted between 60 and 90 minutes, after which the respondent was provided with nutrition education materials and a $5 cash incentive. The completed questionnaire was reviewed by the study coordinator before data entry. Any missing data inconsistencies were discussed with interviewers, and if necessary, respondents were recontacted to clarify or fill in missing information.

Variables

Infant Feeding

Participants were asked to report retrospectively if they breastfed the index child and the previous child (when applicable) and, if so, for how long. They were also asked to recount reasons for not breastfeeding and reasons for stopping breastfeeding (in the case of those who breastfed their children). Women were also asked if they were advised to breastfeed or bottle-feed both prenatally and postnatally.

Social Capital

The concept of social capital encompasses a community’s potential for cooperative action to address local problems and provide support for individual members within the community in times of stress. As defined by Wood and Kelly, social capital is the existence of community networks, civic engagement, local identity and a sense of solidarity and equity with other community members, and trust and reciprocal help and support. In the survey, we used a similar instrument as the one developed and validated by Sampson et al and adapted and used by us and subsequently by Martin in our target community. Respondents were asked if they have family members/friends who are most important to them living in the United States. They were also asked whether they (1) lend or borrow money, (2) lend or borrow goods (eg, food, household items, clothes, etc), and/or (3) exchange services (eg, errands, babysitting, cooking) with any friends or relatives as part of the social network they have here in the United States. Each of these 3 variables was coded “yes” or “no.”
Acculturation

To assess the degree of acculturation, respondents were asked questions ranging from ethnic self-identification, primary language spoken at home, and their degree of fluency in the English language. Questions were also asked regarding their migration history, the extent to which the respondent followed politics in Puerto Rico and here in the United States, and their print and electronic media preferences, as well as the kind of music they mainly listen to. Respondents were also asked about their social relations, attendance at Latino cultural events, and their feelings, values, and attitude as Puerto Ricans living in the United States.13 These questions, which have previously been pretested in this community, were either coded “yes” or “no” or using ratings scale (1 = strongly agree, 4 = strongly disagree). An additive acculturation score was generated for each respondent based on her response to each of 37 acculturation variables reflecting language and mass media preferences, place of birth and migration patterns, family values, and religious and political beliefs (coding: 0 = not acculturated, 1 = acculturated) (possible range = 0-37). Due to missing data for one or more of the acculturation variables, the acculturation score was available only for 112 of the 161 subjects. Cronbach’s $\alpha$ was used to test the internal consistency for responses to the acculturation scale ($\alpha = .80$, $N = 112$). The score was normally distributed (median = 14.0, average = 14.7, range = 5-26, standard deviation = 5.0) and as expected correlated strongly with typical acculturation indicators such as language preference (Spearman’s $\rho = 0.558$, $P < .001$) and television channel preferences ($\rho = 0.553$, $P < .001$).

Demographic and Socioeconomic Status (SES)

The following demographic and SES variables were collected and included in the multivariate analyses: respondent’s age, language of interview (Spanish or English), level of education, respondent head of household (yes or no), parity of respondent (primiparous or multiparous), marital status (single, married, or common law), employment status (employed full-time, employed part-time, full-time homemaker, student, or unemployed), and country/territory of birth (Puerto Rico or United States).

Statistical Analyses

Of the 201 caretakers who participated in the study, 40 were not the child’s biological mother and were excluded from the analyses to ensure proper understanding of the actual breastfeeding practices when the index child was born. Thus, the analytical sample consists of the 161 caretakers who were the biological mothers of the index child. All data were entered and analyzed with SPSS for Windows (version 10.0; SPSS Inc, Chicago). Chi-square analyses were used to examine the bivariate association between ever breastfeeding the index child, the independent variables of acculturation and social capital, and 8 socioeconomic and demographic covariates. Multivariate logistic regression analyses were conducted to estimate the independent influence of risk factors for breastfeeding after adjusting for covariates identified through the bivariate analyses. In the multivariate analyses, the acculturation construct was represented by the acculturation score previously described. The Spearman’s correlation coefficient among the 3 social capital variables ranged from 0.199 to 0.308 ($P < .05$), and none of these variables were significantly correlated with the acculturation score. Thus, multicollinearity among the social capital and the acculturation variable did not affect our analyses. We tested for possible interactions between age and acculturation, age and being the head of household, and heading household and exchanging services. None of these interactions were statistically significant. Thus, only the results of the main effects model are presented. Experience breastfeeding a previous child was not included in the multivariate model because factors associated with ever breastfeeding the previous and index child were almost identical. Odds ratios (ORs) and their 95% confidence intervals (CIs) are reported in the article for each independent risk factor. For all analyses, statistical significance was accepted at $P \leq .05$ (two-sided) or if the OR’s 95% CI excluded the value of one. The Hosmer-Lemeshow test was used to assess multivariate model fit.

Results

Subjects

The majority of women (72.0%) were born in Puerto Rico: 83.2% identified themselves as Puerto Ricans, 9.9% as Puerto Rican-American, and 6.8% as Hispanic/Latino, with 40.4% reporting to have at least completed high school (Table 1). Respondent’s age ranged from 17 to 40 years, with the majority (70.8%) of them being between 20 and 30 years. While 49.1% reported to be single mothers or with no partners, the great majority...
were unemployed or full-time homemakers. While 80.1% of the respondents were food stamp recipients, as many as 94.4% had received WIC benefits, reflecting their low-income status (Table 1).

Slightly more than half (50.3%) of the respondents reported to have ever breastfed the index child. The most common reasons given for not breastfeeding the index child included mother embarrassed to breastfeed in public, heard breastfeeding hurts and involves much stress, and mother felt she could not produce enough breast milk to meet the baby’s needs (Table 2).

**Bivariate Analyses**

Results from the bivariate analyses show that breastfeeding the index child was positively associated ($P < .05$) with the age of the mother, having breastfed the previous child in the case of multiparous women, as well as the respondents themselves having been breastfed as infants. From the 3 social capital variables, only exchanging services with neighbors, friends, or relatives had a significant positive association with ever breastfeeding the index child (Table 3). Respondent being the head of the household, always watched Spanish TV channels, and listens only to Latino music had a negative significant association with breastfeeding the child.
Multivariate Analyses

There was no association of acculturation or educational level with breastfeeding initiation among women of Puerto Rican origin studied.

Women who reported to exchange services (eg, errands, babysitting, cooking) with friends, neighbors, or relatives were more likely to breastfeed the index child compared to their counterparts who did not exchange services (OR = 2.25; 95% CI, 1.02-4.95). Mothers who reported not to be the head of their household were more likely to breastfeed the index child (OR = 3.06; 95% CI, 1.09-8.57). Women’s age remained in the model but was no longer significantly associated with breastfeeding initiation (Table 4).

Discussion

The rate of ever breastfeeding among these Puerto Rican women living in Connecticut in 1998-1999 was almost identical to the one reported by Pérez-Escamilla et al for a study conducted in this community in 1995-1997 (50.3% vs 50%, respectively). This rate that is also close to the 48% reported by the Institute of Medicine for Latino women living in New England falls far below the 75% initiation rate target proposed in the Healthy People 2010 initiative. Reasons given for not breastfeeding were similar to those reported in other studies conducted in the United States irrespective of race. The majority of the mothers in our study cited “embarrassment to breastfeed in public” and “it hurts” or “baby could not latch on the breast” as reasons for not breastfeeding. Therefore, there is the need for breastfeeding policies, counseling, and education for mothers and the public at large.

An important predictor of ever breastfeeding among these Puerto Rican women was social capital. The dimension of social capital that was strongly associated with ever breastfeeding was exchanging services and support with relatives or neighbors, whereas lending/borrowing money or exchanging goods was not associated with ever breastfeeding. We therefore speculate that “time release” may be an important factor considered by Puerto Rican women in making their infant feeding choice. Also, the feeling of support is a very important factor, which has been associated with a woman’s intention to breastfeed, Balcazar and associates reported that women who intended to breastfeed were more likely to have the support of the baby’s father. This is in line with the association of social capital and breastfeeding the index child found in this study. This could be explained by the idea that women may consider the sort of support or assistance that will be available to them in their decision to breastfeed.

The results of our study show that the degree of acculturation to the US culture does not influence the breastfeeding behavior of Puerto Rican women, unlike what has been reported for Mexican American women in the United States. This could be due to differences in breastfeeding culture and background as well as in the breastfeeding support systems in country or territory of origin (i.e., stronger in Mexico but weaker in Puerto Rico). Therefore, the rate of initiation of breastfeeding may be strongly influenced by the background rate in country or territory of origin. In Mexico, more than 90% of mothers initiate breastfeeding. The proportion of infants born in Puerto Rico who had ever been breastfed was 59% before 1960, dropped to 25% from 1970 to 1974, and bounced back to 38% for births delivered from 1980 to 1982. The breastfeeding initiation data corresponding to the United States during the later period of time was 54% and for Latin America, it ranged from 74% to 97%. In the 1990s, breastfeeding initiation rates were still lower in Puerto Rico than in the United States and Latin America. The lack of breastfeeding support in Puerto Rico is illustrated by the still ongoing legislative process to decriminalize breastfeeding in public (ie, so that breastfeeding is no longer considered indecent exposure).

Although language as a measure of the degree of acculturation has been reported among Latinos of Mexican descent to predict breastfeeding behavior, this

<table>
<thead>
<tr>
<th>Table 4. Likelihood of Ever Breastfeeding the Child, Multivariate Logistic Regression*×××</th>
<th>Odds Ratio</th>
<th>95% Confidence Interval</th>
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</thead>
<tbody>
<tr>
<td>Social capital</td>
<td></td>
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<tr>
<td>Exchange services</td>
<td>2.25</td>
<td>1.02-4.95</td>
</tr>
<tr>
<td>Reference: do not exchange services</td>
<td>1.00</td>
<td></td>
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<tr>
<td>Head of household</td>
<td></td>
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</tr>
<tr>
<td>Respondent not head of household</td>
<td>3.06</td>
<td>1.09-8.57</td>
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<tr>
<td>Reference: respondent head of household</td>
<td>1.00</td>
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<tr>
<td>Respondent’s age, y</td>
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<tr>
<td>≥ 30</td>
<td>2.53</td>
<td>0.80-7.97</td>
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<td>&lt; 30</td>
<td>1.00</td>
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</table>

*Backward stepwise logistic regression. Variables removed from the model: respondent’s level of education and acculturation score.
×××Hosmer-Lemeshow χ² = 5.4; P = .366.
was not found in our bivariate analyses. This could be due to the fact that most Puerto Ricans are bilingual compared to Mexican Americans as reported by Byrd et al. Therefore, language may not be a very good measure of the degree of acculturation among Puerto Ricans. Bivariate analysis showed that exposure to Latino media and music (as a measure of the degree of acculturation) was inversely associated with breastfeeding. Although other studies have reported associations among other elements of acculturation such as nativity, ties with cultural traditions, beliefs and practices, and place of birth with breastfeeding among Mexican Americans, such associations were not seen in this Puerto Rican sample. In fact, the acculturation score tested in the multivariate analyses was not at all associated with the likelihood of breastfeeding initiation in our sample of Puerto Rican women. This confirms the fact that Latino subpopulations are also quite heterogeneous with respect to their breastfeeding behaviors and factors associated with them.

Being a younger mother (younger than 30 years) was inversely associated with ever breastfeeding the infant. It is possible that younger mothers do not find breastfeeding compatible with their lifestyles, that they are under more peer pressure to not breastfeed, and/or that they do not have the experience of having breastfed a previous child. Not being the head of household had a positive influence on breastfeeding initiation. This may be due to the possibility that women who head their households do not have enough social support.

In conclusion, our data suggest that social support as reflected in social capital is a key determinant of the choice to breastfeed infants in this Puerto Rican community living in the continental United States. Thus, policies that affect the level of integration and neighbor-to-neighbor support are likely to positively affect breastfeeding initiation rates in socioeconomically disadvantaged communities in the United States. Further research is needed in the area of acculturation and infant-feeding choices in different Latino communities. These studies are essential to better design cost-effective breastfeeding promotion policies and interventions targeting Latinas of different ethnicities.

References


**Resumen**

*Capital social, aculturación e iniciación de la lactancia materna en mujeres puertorriqueñas en Estados Unidos*

Se hizo un estudio retrospectivo en una muestra de conveniencia de 161 mujeres Latinas de bajos ingresos económicos con hijos menores de 6 años para examinar las razones de no amamantar e identificar factores asociados a la lactancia materna entre mujeres puertorriqueñas. Las mujeres se identificaron en el Hispanic Health Council (43%), el programa WIC (29.8%) y otros sitios (26.7%). Se entrevistaron a las participantes utilizando un cuestionario específico. La mayoría (73%) de las participantes prefirieron la entrevista en Español. El análisis chi-cuadrado se utilizó para examinar la asociación bivariada entre haber lactado y variables independientes. Una regresión logística multivariada se hizo para examinar la asociación independiente entre aculturación, capital social y lactancia materna. Las mujeres con mayor capital social amamantaron mas a sus hijos (OR=2.25, 95%CI:1.02-4.95), sugiriendo que el capital social es un pronóstico importante para la iniciación de la lactancia materna en esta comunidad.