

Testing An Innovative Video Intervention To Prevent Early Childhood Obesity

Terry J. Rosenberg, PhD, Roberta Scheinmann, MPH, Mary Ann Chiasson, DrPH

Background

Obesity, the major health problem of America's children, is now occurring among the youngest children. Public Health Solutions is currently engaged in an innovative effort to prevent childhood obesity among children under two years of age.

While most childhood obesity prevention programs focus on school-age children, our study of children 2-4 years old in our WIC program (Special Supplemental Nutrition Program for Women, Infants, and Children)* indicates that 40% of these children are already obese or at risk for obesity. Furthermore, our prior research showed that WIC clients would prefer receiving an educational video rather than written material, and that nearly all had access to a DVD player. Based on this information, Public Health Solutions began producing and distributing educational DVDs on infant feeding in a number of languages.

The videos are available in English/Spanish, English/Mandarin, and English/Creole/French; each of our new WIC mothers now receives a language-appropriate DVD. This report summarizes the three-month evaluation of the effectiveness of the English/Spanish DVD, "It's Never Too Early: Feeding Your Baby Well" ("Empezando Temprano: La Buena Alimentación de Tu Bebé").

Methods

The English/Spanish DVD introduces caregivers to healthy feeding practices for infants and toddlers from birth to 24 months of age. Real families appear in the DVD. Based on the results of earlier research, the DVD includes segments showing mothers, fathers, and grandmothers as caregivers; it also shows infants, toddlers, and their siblings being fed culturally-appropriate healthy foods. For purposes of the evaluation, the

DVD was distributed to Latina mothers at one WIC center in Queens (Intervention Group/IG), while it was *not* distributed at three other WIC centers in Brooklyn and Queens (Non-Intervention Group/NOIG). At all four centers, bilingual interviewers approached mothers in the waiting rooms to do a baseline survey. Evaluation participants were over 18, with a baby younger than five months, spoke English or Spanish, and consented to be re-contacted for phone interviews.

Women were asked about demographics, as well as knowledge of and practices related to infant feeding at baseline. An example of a knowledge question is: "At what age do solid foods become a baby's main food?" An example of a healthy infant feeding practice is breastfeeding at three months. These same women were called three months later and asked similar questions. We expected that, at the three-month phone follow-up, knowledge about healthy infant feeding practices among women in the IG would have increased more and that these women would be engaged in healthier feeding practices, compared to the NOIG. The Public Health Solutions Institutional Review Board (IRB) approved this study.

Evaluation Results

There were 171 women in the IG and 197 in the NOIG. Eighty percent were foreign-born, with Mexico and Ecuador being the most common countries of origin. At baseline, there were no differences in mother's age (mean=27.7 years) or baby's age (mean=1.6 months). Likewise, there were no differences in mother's work status, education, number of children, or having another caregiver for the baby. The levels of any breastfeeding were the same for both groups (80.4% for the total). Two important demographic differences, however, were that fewer women in the IG compared to the NOIG were US-born (9.4% vs. 29.9%, $p<.001$) and fewer women in the IG spoke any English (32.7% vs. 56.3%). The IG also scored lower on a scale created from nine knowledge questions (mean number of correct answers for the IG=5.8 vs. 6.3 for the NOIG, $p=.001$).

*The Public Health Solutions Neighborhood WIC Program's 13 centers provide services to 45,000 women, infants and children every month.

At the three-month interview, 84.8% of the IG said they had watched the DVD, and improvement in the knowledge scale score was related to the number of times a woman had watched the DVD. As hypothesized, the improvement in knowledge was greater for the IG. While the mean knowledge score for the IG increased from 5.8 to 6.3 ($p=.001$), the improvement for the NOIG went from 6.3 to 6.6 ($p=.006$).

Group	Increase in Knowledge*	Significance Level
Intervention	5.8 to 6.3	.001**
Non-Intervention	6.3 to 6.6	.006**

* The mean number of correct answers out of 9 questions

**The probability of this happening by chance is 1 out of 1,000 as compared to 6 out of 1,000.

Further analysis showed that, on specific knowledge questions emphasized in the DVD, the IG experienced very notable improvement. For example, there was a full 25.2% improvement in correct answers to a question about the size of a baby's stomach for the IG (from 31.4% correct to 57.1% correct), but only a 10.1% improvement for the NOIG (from 43.2% correct to 53.6% correct). (A baby's stomach is the size of his/her fist.)

The two groups of mothers were similar on key infant feeding practices at the three-month interview. There were no significant differences in current breastfeeding (67.9% for the total) or the age of juice introduction (a mean of 4.5 months for the IG vs. 4.4 months for the NOIG). Also, there was no difference in the mean age at which solids had been introduced (4.5 months for the IG vs. 4.4 months for the NOIG). (Children were included in these analyses only if their prior feeding history was appropriate, e.g. only children who had not yet been introduced to solids at the baseline were included in the analysis of solids introduction later.)

Discussion

As hypothesized, the IG experienced greater improvement in knowledge about healthy infant feeding practices over the three months than did the NOIG, particularly with regard to information presented repeatedly in the DVD. While there were no significant differences in feeding practices at the time of the three-month survey, including the continuation of breast-feeding beyond the baseline or the timing of the first introduction of solid foods, analysis of the six-month interview data, which is pending, is likely to show more significant differences.

Additional research is planned that will involve showing the English/Spanish DVD in a more controlled setting. Women will view the DVD together in groups, where a group leader will facilitate discussion of issues in the DVD. A pre- and post-test model will be used to evaluate what women learn from watching the DVD in this setting; they will then receive a free copy of the DVD to view at home. Their knowledge and practices after three months will be compared to those of women who simply receive a free DVD.

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About Public Health Solutions

Public Health Solutions develops, implements and advocates dynamic solutions to prevent disease and improve community health. We conduct comprehensive research providing insight on public health issues, create and manage community health programs and provide services to organizations to address public health challenges. Founded in 1957, and formerly known as Medical and Health Research Association of New York City, today Public Health Solutions effectively uses its core competencies in research and evaluation to help illuminate critical public health issues and to design, implement and assess effective methods for preventing disease and improving health in New York City and beyond.

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For more information about *Pulse*:

Mary Ann Chiasson, DrPh

Vice President, Research & Evaluation
machiasson@healthsolutions.org

For general information about Public Health Solutions:

Hollis Cohen

Vice President, Development & Communications
hcohen@healthsolutions.org



Formerly Medical and Health Research Association of New York City, Inc. (MHRA)

220 Church Street
 5th Floor
 New York, NY 10013-2988
 646-619-6400
www.healthsolutions.org