Breastfeeding Research Supported by the NICHD

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I REPRESENT THE EUNICE KENNEDY Shriver National Institute of Child Health and Human Development (NICHD) and National Institutes of Health (NIH). Without Eunice Kennedy Shriver, our institute would not have started. Within 1 year after her brother became President of the United States, she was able to move legislative action to start a child health institute.

I want to talk about the few recent studies funded by NICHD and one little editorial I wrote about the Affordable Care Act.

To briefly summarize, the NIH funds research to support or to develop discoveries and inventions that will lead to generalizable knowledge. That means anyone can take that knowledge and apply it.

That is the most important component of NIH research. A wonderful example is in the 1960s and 1970s, Dr. Robert Percival got a grant to examine how various blood vessels dilate or constrict when exposed to neurochemical substances.

One day, one of his technicians did not clean the endothelium properly and that suddenly led to a relaxation of the endothelial muscles. Then he said, “Well, there must be something in the endothelium,” and found endothelium relaxing factor, which turned out to be nitric oxide, which turned out to be fundamental in starting a lot of research on nitric oxide, which included sildenafil citrate (Viagra®; Pfizer, New York, NY). Viagra was tried to help myocardial infarction, and an unexpected side effect led to another branch of discovery and invention.

Implementation research, how to improve breastfeeding, for example, is also supported by the NIH, but even then our focus is generalizable knowledge. That means if you have one method versus another method, which method is more effective, etc. And finally, there is an education component. We want to not only educate the public about the research findings, but also educate future researchers, especially clinician researchers.

Types of research on breastfeeding that are funded by NIH include a very, very large portfolio. We begin with mammary gland biology and breast tissue development; we continue on to human milk. The area of human milk, milk components, and human milk feeding now is big, as is the stored milk bank of human milk.

A lot of people do not always keep in mind that NIH is a plural, “National Institutes of Health.” We are 27 different Institutes. It’s almost like 27 independent colleges all put together under a big university, each one having its own mission. Several Institutes support research related to breastfeeding.

Human immunodeficiency virus and breastfeeding is a major area of research that the National Institute of Allergy and Infectious Disease supports. The National Cancer Institute is very interested in research related to how breastfeeding modulates women’s cancer issues later in life.

As an example, I will talk about three or four research projects that recently we have funded and what they have found. One of them is titled “Maternal Clinician and Hospital Factors in Breast Milk for Premature Infants” and is awarded to Dr. Henry Lee at Stanford. This is a career development grant, training him to become a scientist. For 5 years, 75% of his salary is paid for him.

The objective of his grant is to study maternal and family factors influencing human milk feeding in preterm infants. He will conduct a statewide survey of 100 hospitals and see what are the barriers, what are the factors that affect the ability of the mom to give her milk and the hospital to continue to use that milk for preterm babies, and to gather the data to design a pilot intervention to promote human milk feeding.

“Group Intervention to Increase Breastfeeding Duration Amongst Puerto Rican Mothers” is another project we funded. Minority populations often have lower breastfeeding rates, but in particular there is another issue, obesity. The interaction of those issues is very critical. So the feasibility, acceptability, and the effect sizes of various kinds of interventions among low-income Puerto Rican mothers is the goal of the study.

It’s R03, a small grant, \$50,000 for 2 years. There are three groups: standard care, a peer support group, and the third group, which is very interesting to me, adds a financial incentive. They will find out with observation if you give \$5 per team member per week whether it will increase the duration, exclusivity, and other measures of intensity of breastfeeding.

“Boosting Breastfeeding in Low-Income Multi-Ethnic Women” is a primary care-based study from Dr. Karen Bonuck. She received an RO1, which is a larger grant, and her study was to see in the preclinical setting whether inclusion of lactation consultants will enhance breastfeeding among the low-income women in New York City. She found that if you combine pre- and postnatal breastfeeding support, it will increase the intensity of breastfeeding.

And these increases were achieved by only 3 hours of a lactation consultant’s involvement in a prenatal clinic setting. The lactation consultant can counsel 600 mothers per year. So it is a very worthwhile investment for a practicing group to

have a lactation consultant in prenatal clinics, which is often not the case.

This is the idea of generalizable knowledge that you can take findings like “Well, prenatal counseling with lactation consulting will help” beyond one study and see how you can operationalize it.

I want to mention Dr. Ann Dozier’s work. She has been funded for a long time and is now in her seventh year. Her work focuses on improving breastfeeding rates among low-income, minority communities. She is trying to find out the “ecology” of breastfeeding. What are the factors that are preventing it? We all know that breastfeeding is very good. How come we still have problems? How come we are not achieving our goals?

She is looking into socioecological factors that may be preventing breastfeeding, the barriers, and how we can overcome them. What are the lessons learned from her trial? “Healthcare professionals working with lower-income women continue to have negative or ambivalent attitudes about breastfeeding.” This is now talking about healthcare providers, not the general public, but doctors and nurses.

The messages they give to mothers are inconsistent and often confusing. They all know that breastfeeding is best but do not always know the specifics as to why. For example, take the effect of breastfeeding on pediatric and maternal obesity. If a mom asks a few more questions, they may not know the answers. How it improves immune function—they may not know the details. Questions about smoking and breastfeeding, they may not know exactly how to counsel. And mothers continue to hold myths about breastfeeding. They are skeptical about benefits concerning ear infection. Mothers may say, “Oh, I breastfed my previous baby. The baby had two infections.” People need to understand the risk versus the frequency and prevalence. And the people who are counseling them may not be able to explain that in simple terms.

Systems, policies, or practices within and across organizations may subvert one another. So you may want to have someone bring the baby to breastfeed, but then the building policy will not let children come in. This is something at an operational level that has to be handled. Support is needed to sustain breastfeeding even for higher-income women. Family relationships can play a significant role in sustaining breastfeeding. A breastfeeding mother may feel vulnerable and need protection while breastfeeding, even in her home.

The cost of formula did not figure prominently as a motivator to increase breastfeeding because often it is available for free. In the context of their lives, formula feeding was seen as convenient, whereas breastfeeding was not. And teens and young mothers are identified as a key target for group intervention.

Local attitudes may be different from national attitudes. So you need to hear the local voices.

Although the optimal choice is breastfeeding, low-income women may make suboptimal choices every day. So therefore in the context of their lives, not breastfeeding is not a big deal. See, you need to understand the thinking. How risky a choice is formula feeding in the context of their lives?

I published a small editorial in *Pediatrics* last year entitled “Reasonable Break Time.” The Affordable Care Act actually has a provision that makes it mandatory for every employer to provide reasonable break time for breastfeeding women. Many people do not know this, including doctors. It’s all very well spelled out, and if any mother feels that her employer is not providing this, she can contact the Department of Labor, and they will try to help resolve the issue.

I mean, this was a 2-page editorial I wrote. I got so many letters. I never got letters from readers in the past for my articles. But here I was getting letters from mothers and breastfeeding groups saying, “Oh my god, I’m so glad that you wrote this,” and so on.

The final point that I want to discuss is the issue of safe sleep and breastfeeding. There is some concern that you should put the baby properly and appropriately in a sleep environment, and one should not be sleeping with the baby.

Now I’m not getting into the debate, which is right and which is wrong, but the American Academy of Pediatrics has made a statement that safe sleep is very critical. You should breastfeed the baby, but then after that you can put him or her next to your bed.

Now as I said, NICHD is not in the business of making any recommendations; we are here to develop evidence for practice. Because education is one of our missions and we have had a long history of back-to-sleep program, and that really has helped reduce sudden infant death syndrome (SIDS), we really wanted to get both the breastfeeding community of experts and the SIDS community of experts onto the same page.

I think we were able to do that. We said, “You guys can talk it over.” So let’s come up with a messaging method that optimizes both. Eventually, we had two workshops, held in May last year and this year in March. We brought key stakeholders to determine the best strategies to promote the message of both safe infant sleep environment and breastfeeding. A few of the recommendations were the potential use of photodetecting systems and room sharing, reference feeding in the bed and moving the infant to the “back to sleep” base, warning about the risk of relocating to a couch or chair if mom is sleeping, and including images of breastfeeding moms. These are some of the messaging things that the handouts will include. We have stimulated research to see whether room sharing enhances breastfeeding just as much as keeping the baby with you and sleeping with the baby, as our underlying credo is that we are all together in improving safe infant outcomes.

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