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Discussion Paper BRIEFS

Food Consumption and Nutrition Division of the International Food Policy Research Institute

Discussion Paper 130

Creating a Child Feeding Index Using the Demographic and Health Surveys: An Example from Latin America

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The importance of child feeding practices for child nutrition is well recognized. However, efforts to measure and quantify child feeding practices and assess the strength of their association with child nutritional status have been hampered by methodological problems. These problems arise primarily because child feeding practices encompass a series of interrelated behaviors that are difficult to summarize into one or a few variables.

The aims of this paper are, therefore, to (1) assess the feasibility of creating an age-specific child feeding index using the information available in Demographic and Health Surveys (DHS) data sets; (2) examine urban and rural differences in child feeding practices and evaluate whether they parallel differences in nutritional status; (3) estimate the strength of the association between child feeding practices and child nutritional status, while controlling for potentially confounding factors through multiple regression analyses; and (4) evaluate whether good feeding practices are more important for some subgroups of children than others.

The Data and the Variables Used to Create the Feeding Index

This paper uses seven data sets from the DHS for the following five Latin American countries: Bolivia, Colombia, Guatemala, Nicaragua, and Peru.

The variables used to create the feeding index were breastfeeding, use of baby bottles in the previous 24 hours, dietary diversity, food group frequency, and meal frequency. The index was made age-specific for 6–9-, 9–12-, and 12–36-month age groups. Country- and age-specific feeding terciles were also created.

Analytical Methodology

T-tests and analysis of variance (ANOVA) were used to test the statistical significance of differences

in feeding practices and nutritional status between urban and rural areas, and to test differences in height-for-age Z-scores (HAZ) between feeding tercile groups. Ordinary least squares regression analysis was used to test whether the association between the feeding index terciles and HAZ remained after controlling for a variety of child (age, gender), maternal (age, height, education, parity and ethnicity), and household characteristics (number of children < 5 years of age, socioeconomic status, and area of residence). Interaction models were also used to test the statistical significance of all two-way interactions between each of these characteristics on the one hand and child feeding terciles on the other. This was to determine whether the association between feeding practices and HAZ was stronger among some subgroups of children than others.

Results

Bivariate analyses showed that feeding practices were strongly and significantly associated with child HAZ in all seven data sets, especially after 12 months of age. Differences in HAZ between the lowest and highest feeding terciles remained significant for all countries except Bolivia, after controlling by multivariate analysis for potentially confounding influences. Multiple regression analyses also revealed that better feeding practices were more important for children from lower, compared to higher, socioeconomic status; for children of Ladino (Spanish speaking), compared to indigenous, origin; for older (30–36 months), compared to younger, children (12–30 months); and for children of mothers with, compared to mothers without, primary schooling, or mothers with secondary education or higher.

Urban mothers had consistently higher feeding practices scores than rural mothers, and their

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children had higher HAZ at all ages. Although breastfeeding rates and duration were lower in urban than in rural areas, as is typical of most countries in the developing world, children's diets in urban areas of Latin America were consistently better than those of rural areas from the age of 6 months. Urban mothers were more likely than rural mothers to introduce complementary foods in a timely fashion, to use a greater variety of complementary foods (animal products in particular), and to offer their children complementary foods as frequently as recommended for their age. Urban/rural differences in malnutrition prevalence paralleled the differences documented for child feeding practices—the prevalence of stunting was systematically lower in urban than in rural areas, and countries with the highest prevalence of stunting also had the lowest average child feeding index scores.

Methodological Considerations

The multivariate analyses presented here did not address the potential problem of endogeneity of the feeding practices variable. This is because the variables necessary to develop appropriate instruments to address this problem are not available in the DHS data sets. Consideration should be given in the future to the inclusion of variables that would make potentially suitable instruments.

Stunting is a long-term process that results from a series of insults, often starting as early as the prenatal period and continuing throughout the first three years of life. It is important to note that the variables used to create the child feeding index, on

the other hand, covered a period of one day to one week. Although there are reasons to believe that short-term practices may be a good proxy for practices over longer periods, findings from this type of analysis need to be interpreted with caution, and inferences of causality should not be made.

Discussion and Conclusion

The method developed in this study to explore child feeding practices using the DHS data sets constitutes an invaluable program and policy tool. It can be used to identify vulnerable groups that are more likely to benefit from interventions to promote improved child feeding practices, as well as to identify the specific feeding practices that should be targeted. Given that the DHS data sets are widely available and contain valuable information on child feeding, efforts should be made to use them more extensively to help design and target nutrition interventions and possibly to evaluate their impact.

In sum, greater use of the DHS data on child feeding practices should be promoted for research and analysis, as a source of guidance on program design and planning, and for advocacy.

Keywords: child feeding practices, Demographic and Health Surveys (DHS), Latin America, nutritional status, stunting

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