

Rural Families Speak about Health Project

Research Brief
November 2016



Family Influences on Health and Well-being of Rural Children in Low-income Households

Background

Child health has been defined by the World Health Organization as the state of physical, mental, intellectual, social and emotional well-being, and not merely the absence of disease or infirmity (WHO, n.d.). It encompasses quality of life in a broad sense, and also refers to a child's economic conditions, peer relationships, political rights, and opportunities for development (Ben-Arieh & Frønes, 2007).

Poverty places children at high risk of poor health and well-being (National Center for Children in Poverty, 2016), and when experienced during early childhood, it can have lifelong impacts. Poverty rates among rural (non-metro) communities are greater than urban (metro) communities. Lack of jobs, employment and transportation services, and physical isolation in rural communities are barriers that place families at risk for poverty. Additionally, rural adults tend to have less education and a higher rate of underemployment than urban parents, thus, placing children at higher risk of being poor (Economic Research Service, United States Department of Agriculture, n.d.).

In 2014, over one quarter (28.7 percent) of rural children under 6 years of age experienced poverty, compared to about one-fifth of urban children (23.1 percent). Deep poverty (when a child's family has income less than half of their poverty income threshold) was more prevalent among rural compared to urban young children (13.8%, 10.6% respectively), and is concerning as it means that children are growing up in households that have severe economic problems that likely will continue during children's formative years and will affect their long-term development and health. Furthermore, about 1 out of 6 rural children (14.9%) were moderately poor (with income 0.50 to 0.99 a child's family poverty income threshold) and over a quarter (27.7%) were low-income (1 to up to 1.99 a child's family poverty income threshold). The proportion of children living in low-income or poor households overall is an indicator of poverty risk and can serve as a measure of well-being for income-based policy (Economic Research Service, United States Department of Agriculture, n.d.)

Rural Families Speak About Health (RFSH)

This research brief highlights findings related to family influences on rural child health and well-being (see Figure 2) that were derived from cross-sectional data included in the USDA Hatch funded *Rural Families Speak about Health* (RFSH) project. Four hundred and forty-four rural mothers across thirteen states participated in in-person interviews between 2011-2012. Mixed Purposive Sampling (MPS) (Mammen & Sano, 2012) was used to recruit mothers into the study. Mothers resided in rural communities designated as having an urban influence code (UIC) of 5 or higher. The UIC classifies U.S. counties into different categories according to population size, urbanization, and access to

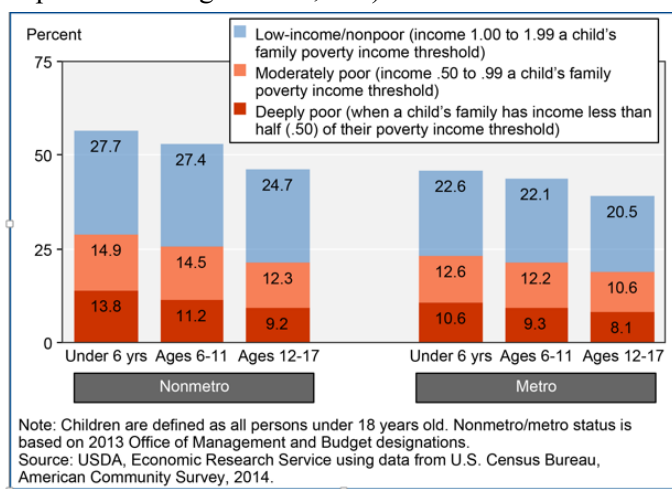


Figure 1. Children by age, poverty status, and metro/nonmetro residence, 2014.

larger communities. Higher numbers indicate more rural areas (Economic Research Service, 2007). Mothers of Latino origin were over sampled in the study. Mothers were 18 years of age or older and lived in households with annual incomes at or below 185% of the Federal Poverty Level. Mothers reported health information about a randomly selected child in their household who was age 13 or younger, and who lived with the mother 50% or more of the time.

Demographics of study sample. Among the 444 focal children, half were boys (50.5%) and the mean age was 5.9 years old (SD=3.6). Over half (53.8%, N=239) of the children were between 0.1-5.9 years of age, and 46.2% (N=205) were between 6.0-12.9 years of age. Almost half of the children were identified as Anglo (46.5%) and over a third (35.4%) as Latino. Other children were identified as African American (7%), of more than one race (6.3%), Native American (2.3%), Asian or Pacific Islander (1.4%), or other (1.1%). While individuals of Latino origin were oversampled, the percentages of racial groups represented in this study is similar to the U.S. rural population in 2010 (American Community Survey, U.S. Census Bureau, 2010). Two thirds (66%) of the children lived in married or partnered households, compared to 69.1% of U.S. rural children in 2010. The average family size was four and the median annual household income ranged between \$15,000 and \$19,999. In 2010, the average U.S. rural family size was 3.02 individuals (U.S. Bureau of the Census, 2000) and the median annual household income was \$42,419 (USDA, 2010).

Health and Well-being of Children in RFSH

Child Health. The percentages of RFSH children’s overall health and dental health reported as “excellent” or “very good” were much lower than children nationally (National Kids Count, 2012) (see Figure 3). Over half (58.2%) of children in RFSH had been diagnosed with at least one physical or mental health problem (Radunovich, H., et al., 2015). See Table 1. Additionally, the percentage of children who were uninsured was much lower than children nationally (National Kids Count, 2012). Uninsured children commonly do not receive routine health care, thus, diagnosis of health issues among uninsured children in RFSH may be under reported.

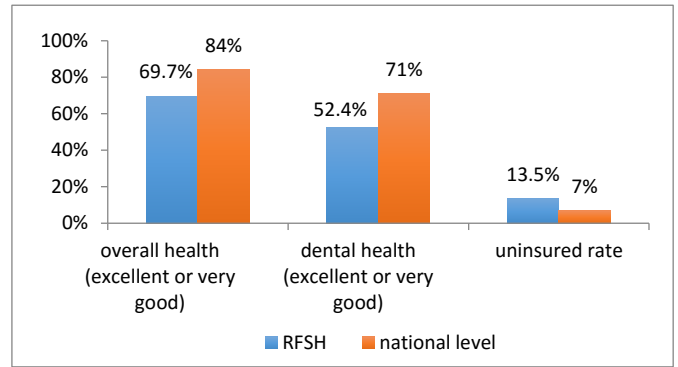


Figure 3. Comparison of children between RFSH data and national health data (%)

Table 1. RFSH diagnosed child health problems¹

Diagnosed child health problems	Children 0-5 years old		Children 6-12 years old	
	N	%	N	%
Allergies	61	25.6	69	33.8
Frequent colds, flu, and/or sinus infections	48	20.2	38	18.6
Other diagnoses ²	35	14.8	42	20.6
Asthma	35	14.8	40	19.6
Chronic ear infections	41	17.3	24	11.8
Developmental delay	21	8.9	23	11.3
Obesity	9	3.8	11	5.4
Lead exposure	6	2.5	7	3.4
Permanent disability	4	1.7	9	4.4
Seizure disorders	5	2.1	2	1
Autism spectrum disorder	2	0.8	2	1
Diabetes	0	0	1	0.5

¹N and % are based on valid number. ²Diagnoses that were not specifically asked about in the study, but were mentioned by some mothers include cystic fibrosis, ADHD, Eczema.

Behavior Problems. Externalizing (i.e., aggression, hyperactivity, noncompliance) and internalizing (i.e., anxiety, depression, withdrawal) problem behaviors among RFSH children were assessed using maternal reports on the Child Behavior Checklist (CBCL) (Achenbach & Rescorla, 2000). Over one-fourth (26.6%) of the children had total behavior problem scores identified as borderline (13.3%) or clinical (13.3%). Older children had higher behavior problems scores (15.2%, 14.0%) than younger (11.2%, 12.4%) children. See Table 2 below.

Table 2. Child behavior problems among focal children in RFSH

Child behaviors	Child age in years	CBCL T scores		Clinical status of Children ¹			N
		M	SD	Normal	Borderline	Clinical	
Internal	1.5-5	50.3	11.0	78.6 %	9.8 %	11.6 %	173
External	1.5-5	51.3	11.6	78.2 %	10.3 %	11.5 %	174
Total problems	1.5-5	51.7	11.4	76.5 %	11.2 %	12.4 %	170
Internal	6-18	53.3	9.7	74.9 %	9.5 %	15.6 %	199
External	6-18	52.3	10.1	78.1 %	8.2 %	13.8 %	196
Total problems	6-18	54.1	9.5	70.8 %	15.2 %	14.0 %	178
Internal	1.5-18	51.9	10.4	76.8 %	9.5 %	13.8 %	370
External	1.5-18	51.8	10.9	78.0 %	9.2 %	12.7 %	369
Total problems	1.5-18	52.9	10.5	73.5 %	13.3 %	13.3 %	347

¹For the internalizing behaviors, externalizing behaviors and total problems, T scores < 60 are in the normal range, 60-63 are borderline and > 64 are in the clinical range (Achenbach, 1991).

Family Influences on Child Health and Well-being

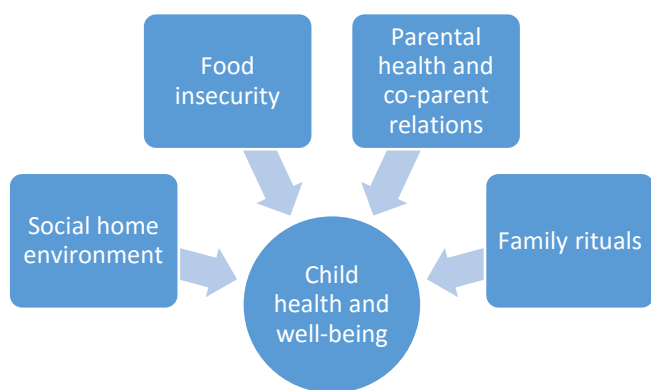


Figure 2. Conceptual model

Social home environment. A home environment that promotes healthful behaviors plays an important role in the health and well-being of children, particularly with regard to behaviors in the home that increase children’s risk for obesity (Ihmels, Welk, Eisenmann, & Nusser, 2009; Peyer, 2016). The Family Nutrition and Physical Activity

(FNPA) screening tool (Ihmels, Welk, Eisenmann, & Nusser, 2009) assessed the social home environment - child and family behaviors in the home related to eating, physical activity, sleep, media use and family routines. Ontai, et al (2015) found that families who had higher FNPA scores also had fewer reports of obesity among older children. Sano et al. (2015) found that lower FNPA scores were significantly associated with both internalizing and externalizing behavior problems for younger children (age 1.5-5 years old), and internalizing behavior problems for older children (age 6-12 years old). Additionally, parents influenced their children’s health related behaviors. Among Anglo mothers, depressive symptoms were positively associated with behaviors in the home environment (Burney, Routh, Greder, & Greer, 2015; Greder, Routh, Sano, & Mammen, 2016) that have been shown to predict obesity among children.

Food insecurity. Forty percent of the children lived in households that had difficulty accessing food on a regular basis. The prevalence of food insecurity was higher among households with older (6 - 12 years) compared to younger (1 ½ - 5 years) children. While food insecurity was associated with internalizing and externalizing problem behaviors among children, depressive symptoms among mothers helped to explain the relationship (Greder, et al., under review). Additionally, healthful nutrition and physical activity behaviors in the home lessened the negative relationship between food insecurity and behavior problems among children (Sano et al, 2015).

Parental health and co-parent relations. Depression, a common stressor experienced by rural low-income mothers (Garg et al., 2015), can compromise a mother’s ability to nurture her children (Kiernan & Huerta, 2008) and to create a stable home environment (Marmorstein et al., 2004) which places children at higher risk for behavior problems. One third of RFSH mothers had clinically significant depressive symptom scores (Downey & Greder, 2014), and higher prevalence of depressive symptoms among mothers was associated with more behavior problems among older (6-12 years) children (Greder et Al.; Bao et al., 2016). When mothers’ overall well-being (e.g., economic and family relationship distress, physical and mental health) suffered, so did the well-being of children (Radunovich, et al., 2015). Additionally, unhealthy relations among parents

were associated with dysregulated behavior (e.g. attention, withdrawn) among children (Ontai et al., 2015). The association found between maternal depressive symptoms with more obesogenic home behaviors for Anglo families was also partially mediated by co-parent alliance in terms of respect, communication and teamwork (Greder, Routh, Sano, & Mammen, 2016).

Family rituals. Situated in patterned family daily interactions, family rituals are closely linked to meaningful and symbolic aspects of family as a whole (Fiese et al., 2002, 2006). Family rituals play an important role in promoting family identity, belonging and cohesion (Fiese et al., 2002; Crespo et al., 2011) and effect the well-being of individual family members (Dickstein et al., 2002). Among the indicators of family rituals assessed in RFSH, rituals associated with dinnertime, family special celebrations and religious holidays were practiced more often than rituals related to weekends, vacations, annual celebrations and cultural traditions. Among RFSH participants, family rituals served as a protective factor for maternal depressive symptoms (Bao, Pang, Arellanes, Greder, 2016) and delinquency among children (Bao, Gudmunson, Greder, Smith, 2016).

Implications

Future Research

Findings from the RFSH project suggest that food insecurity, poverty, family routines and rituals, parental mental health and co-parent relationship quality are major concerns that affect the health and well-being of children living in rural, low-income families. Overall, findings from the RFSH project suggest that families that are able to maintain stability in the face of the adversities that poverty presents provide better environments for children's health and well-being. Further research aimed at understanding the precursors to creating and maintaining stability in rural low-income families is warranted. In addition, studies aimed at understanding

how the broader ecological context unique to rural communities interacts with these family level processes to either facilitate or create barriers to well-being. Longitudinal designs would help to add clarity on patterns of change in child health and well-being over time, and examination of causal relationships between influential factors and rural low-income child health and well-being.

Future Practice

These findings reflect several potential targets for professionals serving families such as social workers, family health educators, home visitors, and Cooperative Extension educators, toward which to aim programming efforts. For instance, programs that build the capacity for families to start and maintain family rituals, such as regular mealtimes, which can serve as a buffer against some of the more common adverse consequences of rural poverty. Moreover, the findings reinforce the importance of access to mental health services for rural families living in poverty. Overall, programs aimed at reaching rural families living in poverty must account for the unique conditions faced by them in program design and implementation.

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