Health Challenges Faced by Rural, Low-Income Families: Insights into Health Disparities

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ABSTRACT. In order to address rural health disparities, the Rural Families Speak (RFS) and Rural Families Speak about Health (RFSH) projects examined the health challenges faced by rural, low-income families. This article highlights findings about their physical health, mental health, health communication, and access to healthcare. Results reveal that families face physical and mental health challenges that reflect the more general trends present in rural, low income communities. The many stressors associated with being poor and living in a rural location contribute to greater vulnerability to physical and mental health issues such as obesity and, in particular, depressive symptoms. Accessing health care is more challenging, and available resources that can serve in a protective role, such as employment options and transportation, are harder to obtain in rural areas. Recommendations are provided to inform the health policy context and guide practitioners seeking to address health challenges faced by low-income rural families.

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Rural communities and families continue to experience higher rates of health inequalities in comparison to their urban and suburban counterparts. For example, recommended health care is delivered only 70% of the time in rural communities (Agency for Health Care Research and Quality [AHRQ], 2015). People in poor rural households have less access to and poorer quality of health care despite national efforts to improve health care quality, access, and affordability (AHRQ, 2015). A recent Center for Disease Control (CDC) study (Moy et al., 2017) reports that rural Americans are more likely than their urban counterparts to die from five leading causes: heart disease, cancer, unintentional injuries, chronic lower respiratory disease, and stroke. Furthermore, rural residents have higher rates of cigarette smoking, high blood pressure, and obesity, and report less leisure-time physical activity. Emerging research indicates that in comparison to their urban counterparts, rural children are more likely to be overweight or obese and their parents are less likely to report that their children received preventative medical or dental health care (Probst et al., 2016).

In response to these rural health disparities, and with the desire to hear from the voices of rural, low-income women, the Rural Families Speak (RFS) and Rural Families Speak about Health (RFSH) studies[1] examined physical and mental health challenges this population experienced in the policy contexts of welfare and health care reform. Early RFS studies highlighted rural disparities (Bauer, Dyk, Son, & Dolan, 2011) and the role of mental health in economic self-sufficiency. Subsequently, depression became a topic of great interest to the RFSH research team. Hence, we sought to understand how complex systemic relationships among social and economic factors, food security status, family relationships, and access to health care impact health and well-being of low-income, rural families.

In RFS and RFSH, we gathered quantitative information on mothers' physical and mental health by identifying general health status, health problems, and depressive symptoms. Body Mass Index (BMI), based upon height and weight, was calculated only for RFSH mothers. Mothers were asked to self-rate their general health status, list their presenting health problems, and complete instruments measuring depressive symptoms. We also asked mothers about a focal child's health status and diagnosed health problems. Health insurance coverage for family members and accessibility of services were also assessed. During qualitative interviews, rural mothers elaborated on how their own health challenges and those of other family members affected their daily lives, employability, and abilities to access the care needed to maintain desired levels of physical activity and well-being.

[1] The objective of the Rural Families Speak (RFS) project (1998-2008) was to study the well-being of rural, low-income families in the context of the 1996 federal welfare reform legislation. The overall goal of the Rural Families Speak about Health (RFSH) study (2008-2019) was to identify the factors that influence physical and mental health among vulnerable, rural families. While there were different samples in RFS and RFSH, the participants in both studies were rural female caregivers, 18 years of age or older, with at least one child under the age of 13. For a complete description of RFS/RFSH studies, please see "Rural, Low-Income Families and their Well-Being: Findings from 20 Years of Research" (Family Science Review, issue 1, 2018).

Results from RFS and RFSH reveal that participants faced physical and mental health challenges reflective of challenges that people living in rural, low-income communities generally encounter. In the following sections, we highlight findings about (a) physical health, (b) mental health, (c) health communication, and, (d) access to healthcare. We then discuss implications (based on our findings) to inform the health policy context and guide practitioners seeking to address health challenges that rural low-income families face.

Physical Health

Not surprisingly, health behaviors, education and economic resources, and place-based factors all impact health outcomes. Quality of health, in turn, influenced our participants' ability to remain physically active and achieve social and economic well-being.

Health Behaviors

Several of our studies investigated the relationship between health behaviors and health outcomes (Bice-Wigington & Huddleston-Casas, 2012). One RFSH study (Noonan et al., 2016) examined risk behaviors linked to cancer including tobacco use, low physical activity, and high BMI. Of the sample, 36% were smokers, 39% reported low levels of physical activity, and 45% were obese (BMI over 30). Thirty-five percent of participants reported engaging in two or more risky behaviors that decreased their overall well-being. There were significant differences in income, perceived health status, and depression depending on the number of risky behaviors reported.

Our qualitative data also shed light on strategies that low-income rural mothers employ to improve or maintain their health. Results from interviews with rural Midwestern Latina mothers (Reina, Greder, & Lee, 2013) reveal they defined being healthy as the absence of illness ("not being sick") and interpreted health as being physically, mentally, and emotionally well. Mothers identified four primary strategies employed to maintain or improve their health: (a) eating healthy food, (b) engaging in vigorous physical activity, (c) moderating intake of unhealthy foods, and, (d) visiting the doctor for regular checkups.

The importance of the relationship between healthy food intake and physical health was underscored by another qualitative study seeking to elucidate factors contributing to obesity among low-income women in remote rural areas (Bove & Olson, 2006). Findings suggested that transportation difficulties confined some women to their homes, thereby diminishing opportunities for physical activity in spaces beyond their immediate environments. Food insecurity and unstable food supplies contributed to erratic eating patterns. Findings shed light on the interplay between structural constraints imposed by rural poverty and women's physical activity, eating patterns, and weight.

Despite these challenges, there are also benefits to rural residents such as nature trails and more expansive green spaces that their urban counterparts may not be able to enjoy. Izenstark et al. (2016) explored how mothers use family-based nature activities to promote their health and that of their family members. During qualitative interviews, participants revealed how these

outdoor activities promote physical, psychological, and social health of each family member, and of the whole family, within the context of poverty.

Education and Economic Resources

Previous research links higher levels of education, income, and employment with better physical health outcomes (UWPHI, 2017). It is notable that our studies highlight the bi-directionality of physical health with education and economic self-sufficiency (Bauer & Dolan, 2011). Corson's (2001) qualitative analysis revealed that rural, low-income mothers' health problems can limit or preclude the ability to secure and retain work or acquire an education. Such problems can also create economic hardship imposed by out-of-pocket healthcare expenditures when adults are uninsured or underinsured. Likewise, child health problems can affect families in similar ways and may limit or interfere with the child's education. Furthermore, the likelihood of participants' employment was related strongly to maternal physical health, mental health, and child health. Chronic health issues of mothers or children also led to less likelihood of full-time employment (Sano & Richards, 2011).

Mental Health

The RFS/RFSH studies have examined health issues in relation to depressive symptoms and overall reports of mental health. Findings suggest there are risk factors related to health and economic self-sufficiency, such as employment and food security, along with protective factors including social support and religious beliefs and practices, which affect the mental health of rural low-income women.

Association between Physical and Mental Health

Overall, rural low-income families in our studies had higher rates of health concerns than did the general US population (Radunovich, Smith, Ontai, Hunter, & Cannella, 2017). There is evidence that this population may have less knowledge or understanding of what constitutes depression. Participants reported significant depressive symptoms on screening measures but denied having depression when they were asked (Simmons, Huddleston-Casas, & Berry, 2007). Health issues were associated closely with depressive symptoms for our samples. Those reporting more depressive symptoms also reported more doctor visits (Simmons, Huddleston-Casas, & Berry, 2007; Simmons et al., 2006) and those who screened positively for depression were more likely to report health issues (Braun & Rudd, 2003). Physical health issues among mothers were more likely even when the depressed person was another household member, such as a spouse or child (Guyer, 2003). Obesity preventing behaviors such as exercise and good nutrition were significantly less likely when high degrees of depressive symptoms were present (Burney, Routh, Greder, & Greer, 2015). Food behaviors tended to be poor when mothers were experiencing depressive symptoms such as increased likelihood of using food as a reward (Routh, Greder, Burney, & Doudna, 2014).

Employment

As might be expected, having a challenging financial situation, or at least perceiving one's financial situation as bleak (Dolan, Richards, Sano, Bauer, & Braun, 2005; Mammen, Bauer & Lass, 2009), was found to be associated with higher likelihood of having depressive symptoms in Latina and non-Latina populations (Downey & Greder, 2014). Having a job, by contrast, was associated with lower levels of depressive symptoms (Guyer, 2003). Obviously, depressive symptoms or other mental health issues can impede functioning, which in turn can make attaining and maintaining employment challenging (Braun & Rudd, 2003). There is also evidence to suggest that the presence of one household member who is depressed can make working outside the home difficult: it may be necessary to take time off to care for a household member struggling with mental illness (Lent, Petrovic, Swanson, & Olson, 2009).

Food Insecurity

There is general evidence to suggest that food insecurity is associated with poorer mental health, specifically with higher levels of depressive symptoms (Bao & Greder, 2015; Doudna, 2012). Child behavior problems are also associated with family food insecurity (Bao, Pang, Arellanes, Greder, & Smith, 2016). Interestingly, when looked at through prospective studies (Huddleston-Casas, Charnigo, & Simmons, 2009), the relationship between food insecurity and depressive symptoms is bi-directional. In other words, food insecurity can not only increase the likelihood of depressive symptoms, but having depressive symptoms also makes food insecurity more likely. This second finding makes sense when considering that those who experience clinical levels of depression can have difficulty engaging in behaviors that would help them become more food secure, such as gaining and keeping employment or successfully applying for resources such as the Women, Infants, and Children program (WIC). There was also evidence that having even one family member with depressive symptoms could reduce the likelihood of families becoming food secure because the resources required to deal with mental health issues make employment more challenging (Lent, Petrovic, Swanson, & Olson, 2009).

Social Support

In general, social support was associated with less likelihood of depressive symptoms (Browder, 2011; Browder, Greder, & Crase, 2013; Islam, 2004; Marghi, 2004; Simmons-Wescott, 2004). However, it is important to note that these relationships must be positive to be helpful. Evidence indicates that some relationships, including those with family members, can cause further strain (Braun, 2009; Guyer, 2003). In fact, results of having romantic partners were mixed. In more recent research, those without partners were more likely to show depressive symptoms, but no impact overall mental health was found (Radunovich, Smith, Ontai, Hunter, & Cannella, 2017). By contrast, earlier studies found no association between partner status and mental health (Islam, 2004; Kohler, Anderson, Oravecz, & Braun, 2003). In general, the quality of partner relationships may be more important than having partners (Islam, 2004). It is important to note that having mental health issues can make relationships more challenging, and it may be harder to garner social support when needed.

Religion and Spirituality

The spirituality of poor rural families was assessed in a 2003 study by Braun and Marghi and appears to be a significant contributor of social support to many rural residents. Approximately 75% of respondents reported being spiritual. Even among those who did not identify as spiritual, approximately 75% felt that guidance from God was important. Of those who reported being spiritual, 92% felt that prayer was helpful, and 87% felt guidance from God was important. Overall, over 50% reported belonging to an organized religious community and 77% reported attending religious services. More important, life satisfaction correlated significantly with frequency of attending services and with participation in other religious activities. There was strong association between prayer and using divine guidance in making life decisions. Life satisfaction increased as religious practices increased. In general, the study seems to support the notion that spirituality is a major part of life for this rural population of women and can serve as a source of strength in coping with life stressors. There is also some support for a relationship between faith and depressive symptoms (Garrison, Marks, Lawrence, & Braun, 2005). Religious beliefs were negatively associated with depressive symptoms. Involvement in the religious community was negatively and significantly associated with depressive symptoms. Perhaps the social aspect of participating in a faith community decreases the likelihood of depressive symptoms, but it is also possible that those who are depressed could reduce or withdraw from their involvement in such activities. Marghi (2004) found that higher levels of using religious coping led to lower levels of depressive symptoms for ethnic minority mothers.

Health Communication and Health Literacy

There is increasing recognition that effective communication of relevant health information to at-risk populations contributes to disease prevention and health promotion (Jackson & Duffy, 1998). To some degree, promotion of physical activities, good nutrition, healthy weight, and maintaining healthy behavior depends on effective health communication. Rural low-income families, however, may face challenges in receiving and understanding this information.

Health literacy plays an important role in a family's health behaviors and decision making. Comparing Latina mothers and non-Latina mothers, more than one out of five Latina mothers and more than one out of six non-Latina mothers reported difficulties understanding oral information that doctors or health professionals shared with them (Greder, Sano, Mammen, & Doudna, 2014). The language in which information was shared was the predominant barrier for Latina mothers. For non-Latina mothers, not understanding medical jargon was a key barrier. Individuals with limited health literacy were not, however, likely to disclose difficulties understanding medical instructions and were highly reluctant to ask others for help unless they had trusted confidantes (cited in Sano, Greder, & Mammen, 2017). Therefore, mothers' awareness of not understanding medical information may not directly influence their sense of *needing* professional assistance. Instead, many Latina mothers relied on informal social networks to seek health information (Romero de Slowing, 2012). Latina immigrant mothers frequently sought health information from families and relatives in the United States and in their home countries. Through consultation with their networks, these mothers made collective decisions

about family health issues. Beyond their social networks, just over one-third of Latina mothers used the Internet to seek health information for themselves (35.7%) and their children (37.8%).

Health Messages

Evidence suggests that simply distributing health information in generic forms does not resonate well with audiences. If health information is timely, culturally relevant, based on principles of health literacy, and disseminated in a culturally acceptable manner, then individuals, families, and communities are more likely to make better decisions and take appropriate actions that promote their health and that of their children (Tabatabaei-Moghaddam, Sano, & Mammen, 2014). According to Tabatabaei-Moghaddam et al., the mothers preferred health messages that (a) have a clear connection between recommendations presented in the message and future economic consequences of inaction, with sufficient explanation; (b) mention problem-specific economic struggles and inaccessibility of resources; (c) include community barriers and availability of professional resources in the community. Some differences were also observed in relation to health topics. In the case of dental messages, the mothers preferred the voices of dental authority to voices of other mothers (Tabatabaei-Moghaddm et al., 2014), while other mothers' voices were preferred to authority voices in cases of messages focused on food security (Mammen, Sano, Braun, & Maring, in press). Mothers' most preferred method of message delivery was person-to-person communication followed by electronic media (i.e., email), Internet (i.e., web site), and print materials (Mammen et al.).

Access to Healthcare

Access to healthcare provides physical, mental, and financial protection to individuals and families from expected and unexpected health conditions (Byrne & Greder, 2014). Lack of access to healthcare significantly impacts individuals' abilities to obtain and maintain employment, provide effective care for children and dependents, and contribute positively to their community. Lack of health insurance coverage is especially linked to delayed preventative care and treatment and poorer health outcomes (Anderson, Dobkin, & Gross, 2012). Research consistently shows that rural residents experience more difficulties in accessing and utilizing healthcare resources compared to their urban counterparts due to various factors. These include geographic isolation, fewer numbers of providers and specialists, and lack of public transportation (Downey & Greder, 2014; Sano, Richards, & Lee, 2011). The Federal Office of Rural Health listed limited healthcare access of rural residents as the top contributing factor for urban-rural health disparities (Gamm, Hutchison, Dabney, & Dorsey, 2002).

Health Insurance

Findings from the RFS project documented that more than one-third (33.5%) of mothers and approximately one in ten children (9.5%) had no health insurance. Among those who had health insurance, 71.5% of these families were covered through Medicaid or state health insurance plans. Dental insurance coverage was less common, with 48% of mothers, 56% of partners, and 19% of children having no dental insurance. Racial/ethnic differences were also observed. Latina mothers reported significantly lower levels of insurance coverage than did non-Latina mothers, which could reflect Latina mothers' immigration status (Tatum, 2006; Greder &

Sano, 2011). One could also speculate that this difference is due to lack of insurance coverage and financial difficulties, but Latino families were more likely to postpone filling prescriptions or not fill prescriptions for themselves or their children than were non-Latino families (Greder & Sano, 2011).

In the RFSH study, where families were interviewed before 2012, 42.3% of mothers and 13.5% of children were uninsured (Mammen & Sano, 2013). After passage of the Affordable Care Act (ACA) of 2010, nine RFSH states expanded Medicaid and four states did not. The impact of ACA and Medicaid expansion on vulnerable families is still unknown. Consequently, the RFSH research team is assessing the impact of such policy changes on families and communities. Public assistance continued to be an important safety net for RFSH mothers. Among those who had health insurance, 87.8% of families reported being covered through Medicaid with 72.9% of children covered through the State Children's Health Insurance Program (SCHIP). While health insurance coverage is undoubtedly associated with access to and use of healthcare services, the challenges that rural low-income families face go beyond insurance coverage.

Healthcare Utilization

As expected, the numbers of healthcare utilizations increased as the numbers of physical and mental issues that families experienced increased. Evidence suggests that mothers' numbers of doctor visits increased significantly with poorer overall physical health (Simmons, Anderson, & Braun, 2008), numbers of chronic conditions, and with recent illnesses or injuries (Seiling, Varcoe, DeVitto, & Kim, 2005). Mothers with serious mental and emotional issues were, however, less likely to visit doctors. This population includes women with higher numbers of depressive symptoms (Carlton & Simmons, 2011) and those who have suffered previous emotional/physical/sexual abuse (Kim, Geistfeld, & Seiling, 2003). Understandably, children's visits to health care providers depended on maternal factors. Valluri, Mammen, and Lass (2015) found that children's utilization of healthcare services associated positively with greater numbers of mothers' visits to doctors, and correlated negatively with higher levels of maternal depression, maternal pregnancy, and of mothers being Latina. Bice-Wigington and Huddleston-Casas (2012) pointed out that health service utilization depends on a mother's affective (emotional) and cognitive (reasoning) processes.

Rural Environment

Rural communities face unique challenges in healthcare access compared to their urban counterparts. All RFSH counties from the 13 states where our families resided were designated as Health Professional Shortage Areas (HPSA) (Mammen & Sano, 2013). The numbers of primary care physicians (PCP) (which includes general practitioners, internal medicine, Ob/Gyn, or pediatrics) per 100,000 population in RFSH counties ranged from 35.7 in Kentucky to 114 in Hawaii.

Greater geographic distance to healthcare facilities in rural communities was further complicated by the lack of public transportation and by unreliable personal transportation (Braun, 2003). Kim et al. (2003) found that receiving transportation assistance increased the

numbers of visits to doctors among rural, low-income women. Geographic isolation, lack of availability of community health services, and lack of access to reliable transportation discourages families from seeking preventative care, which makes it more likely that these families will wait to see health professionals, affecting their health to the point that they must seek emergency medical care (Greder & Sano, 2011).

Access to mental health services was even more challenging in rural communities where availability of the latest science-based mental health services is low, and where the costs of services and medications are high. Seeking help for mental health issues may also be especially stigmatizing in small rural communities. Social acceptability is an important determinant of an individual's willingness to seek necessary treatment and is often rooted in community values, attitudes, and environments. An emphasis on self-reliance, culturally negative beliefs about certain mental health problems, and lack of knowledge and education on mental health issues are just a few examples of obstacles to a person's ability to accept mental healthcare.

Conclusion and Recommendations

Overall, RFS/RFSH studies provide evidence that the many stressors associated with being poor and living in rural locations make this population more vulnerable to physical and mental health issues that include obesity, and in particular, depressive symptoms. There is also evidence that this population has less access to health care and to resources that can serve protective roles, such as employment options and reliable transportation. Many variables examined here tend to be interrelated. For example, financial status is highly associated with food security, employment, health insurance affordability, transportation, and access to mental healthcare services. There is also evidence that at least some variables are bi-directional, such as depression and food insecurity. It is necessary to continue exploring directionality of variables through prospective studies. Moreover, evidence shows that ethnicity may play a role in mental health issues. For instance, Latinas report lower levels of depressive symptoms (Downey & Greder, 2014). It will be useful to continue examining how different races and cultures in rural communities respond to mental health issues. Finally, it is important to note that some measures for assessing mental health in these studies were brief screeners such as the CESD-10, which can give a rough estimate of symptoms but not necessarily a specific diagnosis.

Based on the findings from RFS/RFSH studies, we identify several key areas to consider when creating policies for rural populations:

Improving Access to Health Care

Rural populations simply do not have the same access to care that urban populations do. It is important to consider ways to increase access to care for this population, with the goal of reducing physical and mental health disparities. Multiple factors contribute to less access to care: lack of reliable transportation, long distances from providers, fewer providers and less availability of specialty services, higher unemployment/lower incomes, and less likelihood of being insured. Taking a multi-pronged approach that targets each of these areas is important to successfully increasing rural residents' access to health care.

Increasing Health Literacy

Public health campaigns that educate rural residents about physical and mental health conditions, target reduction of stigma, and encourage healthy life choices and preventive efforts may increase positive physical and mental health. When conducting such campaigns it is essential to consider needs of minority residents, whose views and understanding of health might differ from those of majority residents. If there is a high concentration of non-English speakers in a region, having culturally relevant materials at appropriate literacy levels in their spoken languages may help increase the likelihood of messages being received by those who need them.

Building on Existing Networks

While rural areas may lack some of the resources of urban areas, there are several positive factors that can be leveraged to improve the physical and mental health of rural residents. Community leaders are often well known to rural residents. If these leaders encourage healthy behaviors, this may increase local buy-in. Existing social networks, including family, neighborhood, and religious communities, tend to have stronger ties in rural areas and these can be useful to increase messaging and behavior changes. An added advantage to living in many rural communities is access to the natural environment, which provides opportunities for relaxing physical activity. Most important, input from rural residents should guide community decisions affecting rural health.

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