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Loneliness and Living Alone: What Are We Really Measuring?

Emily M. Bucholz, MPH¹ and Harlan M. Krumholz, MD, SM²

¹Yale University School of Medicine, New Haven, Connecticut

²Section of Cardiovascular Medicine and the Robert Wood Johnson Clinical Scholars Program, Department of Medicine, and Section of Health Policy and Administration, School of Public Health, Yale University School of Medicine, and Center for Outcomes Research and Evaluation, Yale–New Haven Hospital, New Haven, Connecticut

Social support. Few concepts in epidemiology have proven more elusive to define. While the term is used loosely to describe the care and companionship we receive from family and friends, in epidemiology it refers to an abstract construct that has been linked to numerous health outcomes. As a result, social support has received considerable attention in the literature as an important disease prognosticator despite issues with measurement and lack of clear implications for applying this knowledge.

Studies have consistently shown an association between social support and improved health. This association persists regardless of the measure used or the population studied. In this issue of *Archives*, Perissonotto et al.¹ examine the effect of loneliness in a population of older adults. They find that lonely participants have a higher risk of mortality and are more likely to experience a decline in activities of daily living (ADLs) compared to participants categorized as not lonely. Similarly, Udell et al.,² also in this issue, investigate the impact of living alone on cardiovascular risk and mortality in a study of outpatients at risk of, or with, atherothrombosis. They report an association between living alone and increased mortality, particularly among younger adults. In addition to mortality and functional decline, social support has been associated with readmission, quality of life, recovery time, and medical complications, making it an ostensibly useful variable to measure and track.

The difficulty with using social support as an epidemiologic variable arises when trying to define it. Social support encompasses many concepts and can be defined several ways, making it difficult to capture as a whole. Generally, studies break social support into four categories including emotional, tangible, informational, and companionship support.³ However, it can also be divided into structural vs. functional support as well as perceived vs. received support. Measures can be objective such as living arrangements, number of contacts, and the presence of caregivers, or subjective such as feelings of belonging and perceived social support. Moreover, social support can come from a number of sources including family, friends, coworkers, neighbors, and pets. Despite the variety of measures and sources that characterize social support, most studies attempt to quantify it using a single self-reported variable. For example, Perissonotto et al. asked participants if they felt 1) “left out,” 2) “isolated,” or 3) “lacked companionship” and categorized subjects as “lonely” if they responded “some of the time” or “often” to any of the questions. Similarly, Udell et al. used a single dichotomized measure asking participants at baseline whether they lived

Correspondence: Emily M. Bucholz, Yale University School of Medicine, 1 Church St, Suite 200, New Haven CT 06510; 214-538-4040; (f) 203-764-5653; emily.bucholz@yale.edu.

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alone (yes/no). With the array of variables available, the choice of measure may seem arbitrary, and few authors explain their rationale for selecting particular measures. Ideally, the decision of which measure to use should be made *a priori* and rooted in some pre-test hypothesis; however this is not always clear either.

Validated scales for social support do exist, including the Multidimensional Scale of Perceived Social Support⁴ and the Medical Outcomes Study (MOS) Social Support Survey.⁵ In general, these scales focus on perceived support and the availability of supportive persons or services. While they capture a broader range of variables than studies using single measures, they still address only a few of the many concepts included under the umbrella term social support. Given the difficulty in defining and quantifying social support, this term has generated much debate in the literature. Whereas some consider it a key epidemiological variable, others discount its utility entirely.

Beyond the problem of simply defining social support, the question remains “what is it really measuring?” How does social support improve health outcomes? At present, the mechanisms behind this relationship are largely unknown; however, several theories have been postulated. Chief among these are the buffering hypothesis and the direct effects hypothesis. Whereas the direct effects hypothesis posits that social support is beneficial for the recipient at all times during the lifespan, the buffering hypothesis argues that social support is more beneficial in times of stress including illness. Evidence has shown that both hypotheses have some merit, but they represent very different processes through which social support affects well-being.⁶

Within these larger theories, numerous biopsychosocial pathways have been proposed. For example, poor social support may increase one’s risk of inadequate nutrition, medication noncompliance, or decreased mobility, all of which can produce worse health outcomes. Alternatively, social support may affect the subjective experience of one’s illness, thereby affecting one’s quality of life and stress response. Finally, poor social support may be intimately linked with depression, which has consistently been associated with worse physical and mental health outcomes. Of note, Perissonotto et al.¹ did look at depression and found that although lonely subjects were more likely to be depressed, loneliness was an independent predictor of mortality and functional decline after controlling for depression. Beyond simply restating these theories in discussion sections, the vast majority of studies examining social support make little or no effort to explore these mechanisms, perhaps because of the difficulties involved with measuring these variables and teasing out the multiple pathways involved.

As we look forward to future studies on social support, the importance of clarifying the mechanisms by which this amorphous concept influences health becomes clear. Measuring social support only becomes useful when there are clear implications in the form of interventions or recommendations for physicians, and this can only be achieved by understanding the mechanisms behind these relationships. For example, the Enhancing Recovery in Coronary Heart Disease (ENRICHD) trial studied the effect of cognitive behavior therapy in patients with depression and low perceived social support (LPSS) after myocardial infarction.⁷ Although the results of this trial revealed no significant differences in event-free survival between patients receiving cognitive behavior therapy and those receiving usual medical care, the intervention did improve depression and social isolation and thus may have been associated with other outcomes besides mortality. In this example, the study investigators targeted depression as the link between LPSS and adverse outcomes. Similar interventions are needed to address domains of social support; however it may be helpful if the mechanisms are more fully elucidated. It should also be noted that some of these prognostic factors are worthy of modification in their own right, regardless of their

association with events. Loneliness is a negative feeling that would be worth addressing even if the condition had no health implications. Nevertheless, with regard to health implications, scientists examining social support should build on studies such as those published in this issue and be challenged to investigate mechanisms as well as practical interventions that can be used to address the social factors that undermine health.

“In the end we retain from our studies only that which we practically apply.”

Johann Wolfgang von Goethe (German author, 1749-1832)

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