

Social Isolation Kills, But How and Why?

The article by Brummett et al. (1) provides another confirmation of the deleterious effects on health of social isolation, first recognized in epidemiologic research of the late 1970s and 1980s and replicated and extended for more than a decade since then (2–4). Social isolation has been shown repeatedly to prospectively predict mortality and serious morbidity both in general population samples (2) and in individuals with established morbidity (3, 4), especially coronary heart disease (1). The magnitude of risk associated with social isolation is comparable with that of cigarette smoking and other major biomedical and psychosocial risk factors. However, our understanding of how and why social isolation is risky for health—or conversely—how and why social ties and relationships are protective of health, still remains quite limited. Brummett et al. (1) contribute importantly to increasing such understanding, but also fail to capitalize fully on opportunities to contribute even more.

This article by Brummett et al. (1) is noteworthy because it shows the impact of social isolation on mortality in an important clinical population with a very extensive set of adjustments for other sociodemographic, psychosocial, and biomedical predictors of mortality. It also carefully explores the functional form of the prospective relationship of social ties to mortality, adding to the evidence that the form of the relationship is nonlinear, with social isolation producing a two- to three-fold increase in risk of mortality, but with little or no variation across moderate to high levels of social relationships. That is, a serious deficiency of social relationships is risky to health, but once the deficiency is removed, adding additional relationships to a social network does not produce substantial or significant increases in health and well-being contrary to the impression left by some arguments for the importance of social relationships to the well-being of individuals and societies (5).

Properly understanding the functional form of the relationship has important implications for both social policy and clinical practice. It may be important to try to ensure that all individuals have meaningful social ties with at least one or a few other individuals, and this is especially true of individuals whose health is already compromised by significant morbidity, especially coronary heart disease. However, trying to enhance further the social network of nonisolated individuals is likely to have little or no additional benefits,

at least for health. Nor does it seem that any particular type of relationship is crucial. Rather, meaningful social ties seem to be functional alternatives to each other. Where a person has regular interaction with a spouse, other relatives, or friends seems less important than that the person has one or more of these social ties.

It is often assumed that it is the supportiveness of social relationships that explains the health-enhancing effects of social relationships. It is certainly reasonable and consistent with existing evidence that the provision of various kinds of emotional and instrumental support is one of the ways in which social relationships benefit health (4, 6). However, most studies of the health impact of social relationships on health fail to evaluate the extent to which support or any other attribute or correlate of relationships can account for the robust and substantial impact of social relationships on health.

Brummett et al. (1) seem to have some of the best data yet available for investigating the issue, but fail to capitalize on these data as fully as they could and should. They show that social isolation is unrelated to a wide range of measures of demographic factors, disease severity, physical functioning, and psychological distress. Hence, such factors can not account for or explain the substantial deleterious effects of social isolation.

However, they also show that isolated individuals report fewer interactions with others, fewer sources of psychological/emotional and instrumental support, and lower levels of religious activity. The obvious question is whether adjusting for one or more of these factors reduces the association of social relationships/isolation with health. Which factors constitute the active ingredient in social isolation producing its deleterious effects on health? Few other studies have the combination of measures available to Brummett et al. (1); thus, I hope in the future they will do the type of analyses suggested here.

Most of their data seem oriented to testing the hypothesis that it is the supportiveness of relationships that explain their effects. However, there are other plausible hypotheses that also deserve to be tested by Brummett et al. (1) or others (2, 4). First is the idea that isolation from others is anxiety arousing or stressful in and of itself, producing physiological arousal and changes, which if prolonged, can produce serious mor-

bidity or mortality; and, conversely that affiliation or contact with others reduces or modulates physiological arousal, both, in general and in the presence of stress and other threats to health (4, 7). A growing body of evidence from experimental studies of animals and humans is consistent with this hypothesis, but more research is needed in clinical and community sampling on how the isolated and nonisolated vary on measures of physiological arousal or distress.

A second hypothesis is that social relationships beneficially affect health, not only because of their supportiveness, but also because of the social control that others exercise over a person, especially by encouraging health-promoting behaviors such as adequate sleep, diet, exercise, and compliance with medical regimes or by discouraging health-damaging behaviors such as smoking, excessive eating, alcohol consumption, or drug abuse (2, 4, 8). More research is needed on how health and illness behaviors vary with social isolation, and whether, and how, the others with whom a person has contact and relationships affect such behaviors.

Another hypothesis is that social ties link people with diffuse social networks that facilitate access to a wide range of resources supportive of health, such as medical referral networks, access to others dealing with similar problems, or opportunities to acquire needed resources via jobs, shopping, or financial institutions (4). These effects are different from support in that they are less a function of the nature of immediate social ties but rather of the ties these immediate ties provide to other people.

Closer attention also needs to be paid to the potential negative as well as positive effects of social relationships, which have been shown to be substantial concerning psychological outcomes, but remain understudied in relation to physical health (9). The findings on the effects of social isolation suggest that some ties, even if not completely positive, may be better than none. But social ties and interactions tend on average to be positive in nature because people avoid negative relationships, unless locked into them by law (marriage) or blood (eg, parent-child relationship). Is a predominantly negative marriage or parent-child relationship (relative to the lack of such a relationship) beneficial, detrimental, or neutral for the prognosis of cardiac patients or health more generally? We do not know, but the answer would have important implica-

tions for both scientific understanding and clinical practice.

In summary, it is known that social isolation is deleterious to health, and Brummett et al. (1) add to and extend that knowledge, yet little is understood about why this is so, and hence, how we can promote social relationships and ties that are maximally health promotive. Here the authors, along with other researchers, have a major opportunity to generate new knowledge and understanding. I hope and trust they will in the near future. Such knowledge and understanding will provide a better guide for developing and testing intervention programs designed to reduce social isolation and improve health. These can most readily be developed in clinical populations like those studied by Brummett et al. (1), and need to be studied even as we learn more about how and why social isolation is deleterious for health. Without yet knowing exactly how and why cigarette smoking is damaging to health, much has been done to reduce it and ameliorate its effects. We should be able to do the same with social isolation.

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REFERENCES

1. Brummett BH, Barefoot JC, Siegler IC, Clapp-Channing NE, Lytle BL, Bosworth HB, Williams RB Jr, Mark DB. Characteristics of socially isolated patients with coronary artery disease who are at elevated risk for mortality. *Psychosom Med* 2001;63:267-272.
2. House JS, Landis KR, Umberson D. Social relationships and health. *Science* 1988;241:540-5.
3. Berkman LF. The role of social relations in health promotion. *Psychosom Med* 1995;57:245-54.
4. Berkman LF, Glass T. Social integration, social networks, social support, and health. In: Berkman LF, Kawachi I, eds. *Social Epidemiology*. New York: Oxford; 2000.
5. Putnam R. *Bowling alone: the collapse and revival of American community*. New York: Simon & Schuster; 2000.
6. House JS. *Work stress and social support*. Reading, MA: Addison-Wesley; 1981.
7. Lynch JJ. *The Broken Heart*. New York: Basic Books; 1979.
8. Umberson D. Family status and health behaviors: social control as a dimension of social integration. *J Health Soc Behav* 1987;28:306-19.
9. Lincoln KS. Social Support, negative social interactions, and psychological well-being. *Soc Serv Rev* 2000;(June):231-52.