

# A Single-Item Measure of Social Supports as a Predictor of Morbidity

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Considerable evidence indicates that supportive social resources have positive health effects, both directly<sup>1-6</sup> and as a buffer against potentially harmful stressors.<sup>6-12</sup> Currently, there is no uniformity with respect to the measurement of social supports; most instruments rely on personal perception of the availability, quantity, or quality of supportive relationships.<sup>13,14</sup> Most measures of social supports are designed for research purposes and have uncertain application in clinical practice. As part of a study of social risk for health impairment, a single-item measure of social supports was evaluated as a predictor of six-month self-reported morbidity.

## METHODS

The selection of study subjects has been previously described.<sup>15</sup> Members of households registered with the Family Medical Care Center at the University of Missouri-Columbia were studied. Volunteers, aged 20 to 65 years, completed a mailed questionnaire in August 1980 and agreed to report their illnesses each month for the next six months. A panel for each sex was defined using one person per household per panel.

The entry questionnaire obtained sociodemographic information and assessed stressful life changes, social supports, health-related practices, and current health status. The independent variable of major interest in this analysis was a measure

of social support that was labeled "tangible assistance." This measure was assessed by the following question: "How many people do you have near that you can readily count on for real help in times of trouble or difficulty, such as watch over children or pets, give ride to hospital or store, or help if you are sick?" Response options were 0, 1, 2 to 5, 6 to 9, and 10 or more. Responses of 0 or 1 were considered to indicate low tangible assistance, and responses of 2 to 5 or more indicated high tangible assistance.

Twelve additional questions constituting a more general social support index were also included in the questionnaire. Concurrent validity was assessed by comparing the single-item measure of tangible assistance with this 12-item index. Based on responses to the 12-item index, subjects were classified as having high, medium, or low supports.<sup>15</sup> Association of these two measures of social supports for each panel was determined by a 2 × 3 cross-tabulation using chi square to test statistical significance.

Morbidity was assessed with definitions and questions adapted from the National Health Survey.<sup>16</sup> Subjects reported by mail each month the number of days spent in the hospital, in bed, absent from work or school, or with a restriction of usual activity because of illness or injury. These illness days were summed over the six-month follow-up period for each participant. Since the frequency distribution of these morbidity days was skewed, with many subjects reporting few or no such days, the outcome variable was treated as categorical. Subjects with nine or more illness days per six months were considered to have high morbidity.

The effects of seven other variables on the rela-

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tionship of tangible assistance to morbidity were analyzed. Life changes over the preceding 12 months were measured using the Social Readjustment Rating Scale,<sup>17</sup> which was modified to allow each respondent to indicate the difficulty in adjustment that was generated by each experienced event. From these responses a subjectively weighted life-change score was calculated for each subject. Each panel was divided into halves (high vs low life-change scores) for analysis. Seven practices relating to exercise, nutrition, cigarette smoking, and alcohol use were assessed using the approach of Belloc and Breslow.<sup>18</sup> Respondents were characterized as having many (5 to 7) or few (4 or fewer) healthy practices. Preexisting medical conditions were determined to be present or absent on the basis of four questions about current health status. In the stratified analysis to control for potential confounding, age and income were dichotomized at the panel medians and education was divided at the level of a college degree. Subjects were categorized as currently married or unmarried.

Subjects who responded to at least five of the six monthly morbidity surveys were included in the analysis. Illness experiences reported for only five months were adjusted to a six-month rate. Approximately 80 percent of those who responded to the entry questionnaire and agreed to participate provided at least five months of morbidity data.

## RESULTS

Two hundred ninety-two women and 188 men completed the questionnaire and supplied morbidity data for at least five months. These subjects were white, predominantly young (median age 33 years), well educated (65 percent had college degrees), and married (83 percent). The median family income was approximately \$20,000 a year. Low tangible assistance (0 or 1 person) was reported by 17 percent of the women and 15 percent of the men. Tangible assistance was strongly associated with the concurrently measured 12-item social supports index. Of the women with low tangible assistance, 65.4 percent were in the lower third for the index, 21.1 percent in the middle third, and 13.5 percent in the upper third ( $\chi^2 = 35.0$ ,  $P < .001$ ). For men with low assistance, the corre-

sponding percentages were 58.6 percent, 27.6 percent, 13.8 percent ( $\chi^2 = 13.2$ ,  $P < .003$ ).

For women, but not for men, there was a significant association of low tangible assistance with increased self-reported morbidity. A high rate ( $\geq 9$  d/6 mo) of restricted activity because of illness was reported by 54 percent of the 52 women with low tangible assistance compared with 32 percent of the 240 women with high tangible assistance ( $P < .005$ ). A high rate of illness days was reported by 38 percent of the men with low tangible assistance and 28 percent of the men with high tangible assistance ( $P < .1$ ). The possibility that the apparent association of low tangible assistance with morbidity in women was confounded by age, marital status, income, education, prior medical condition, healthy practices, or life-change score was explored using stratified analysis.<sup>19</sup> Each adjusted relative risk calculated by the Mantel-Haenszel formula was similar to the crude relative risk of 1.7 and was statistically significantly different from a relative risk of one. Thus, the association of low tangible assistance with high illness days for women was not secondary to the effects of any of these seven variables.

## COMMENT

In this study, women who had no one or only one person available for assistance in times of difficulty had higher self-reported morbidity than women who had such tangible assistance. For men there was a trend in the same direction. This gender difference may be related to the content of the question. It is likely that to "watch over children or pets" and to "give ride to hospital or store" are forms of assistance that are more meaningful to women than to men. Thus, the single question tested may not be as sensitive to the social resources of men as it is to those of women.

Limitations and sources of bias in the overall study of which this analysis is a part have been discussed previously.<sup>15</sup> While the reliability of responses to the question about tangible assistance is not known, concurrent validity is suggested by a strong association of tangible assistance with a composite social supports score. The distinction between the single-item measure of tangible assistance and the 12-item measure of social sup-

ports existed from the outset of the study. The objective of this study was to test the value of a simple question that had reasonable content validity and ready applicability to clinical settings while at the same time exploring at a more conceptual level the phenomena of social supports using the 12-item measure. The results suggest that the question may be useful in identifying women who have increased risk of illness.

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