

Association Between Emotional Support and Current Health Status Among US Adults With Cardiovascular Disorders

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BACKGROUND

- A high rate of physical disability has been reported among survivors of cardiovascular disorders (CVD) such as stroke and congestive heart failure.
- In a recent study, over 40% of patients with congestive heart failure reported disability in performing an activity of daily living (bathing, dressing, eating, toileting, and walking).¹
- Similarly, studies have reported that a considerable proportion of stroke survivors experience neurologic disability and limitations in conducting activities of daily living.²⁻⁴
- The high rate of disability results in greater need for informal caregiver assistance among patients with CVD.
 - A study reported that among patients with CVD, over 47% reported requiring informal caregiver assistance due to disability.⁵
- Additionally, a substantial proportion of patients with CVD report poor health status.^{2,3}
- Studies have reported that emotional support from social relationships is associated with improved health status.⁶
 - Given the high rate of disability and poor health status associated with CVD, survivors with emotional support are likely to have an improved status compared with patients without support.

OBJECTIVE

- To assess the association between receipt of emotional support and self-perceived current health status, and physical and mental health wellness among adults with CVD in the United States (US).

DATA SOURCE

The National Health and Nutrition Examination Survey (NHANES)

- NHANES is a periodic survey conducted by the National Center for Health Statistics of the Centers for Disease Control and Prevention.
 - The results presented in this analysis are taken from the 2007-2008 NHANES.
- NHANES collects information on demographic characteristics, socioeconomic, dietary habits, and health status details of the survey participants.
- One of the major goals of NHANES is to estimate the national prevalence of major diseases.
 - To this end, participants were questioned on their history of CVD.
- Additionally, NHANES collects details on the risk factors associated with these diseases.
- NHANES also collects information on functional limitations caused by long-term physical, mental, and emotional illness.
- Sampling weights allow for generation of nationally representative estimates.

METHODS

Study Population

- US adults (aged ≥ 40 years)

- Self-reported CVD (i.e., if patients answered yes to any of the following survey questions: "Has a doctor or other health professional ever told you that you had a stroke/congestive heart failure/coronary heart disease/heart attack?")

Study Measures

- Self-reported current health status (poor [fair/poor] vs. good [good/very good/excellent])
- Days with poor physical health
- Days with poor mental health
- Inactive days due to poor physical/mental health

Independent Variable

- The primary independent variable considered for this study was availability of emotional support.
- CVD patients were categorized into with and without emotional support based on their response to the following question:
 - "Can you count on anyone to provide you with emotional support such as talking over problems or helping you make a difficult decision?"

Statistical Analysis

- Nationally representative estimates were obtained using the appropriate sampling weights contained in the NHANES 2007-2008 public use file.
- All analyses were stratified by key patient demographics, including sex and race, and differences compared using appropriate univariate tests (i.e., t-test for continuous variables and chi-square test for categorical variables).
- Descriptive analyses were carried out using the Stata statistical software.

RESULTS

Patient Demographics (Table 1)

- There are approximately 16.4 million adults aged 40 years and older with CVD in the US.
- Approximately 92% of CVD patients have someone (e.g., spouse, neighbor) to provide emotional support.
- A significantly greater proportion of CVD patients were male (53.7%), and over 76% were white.
 - Among CVD patients receiving emotional support, approximately 53% were males, and among patients without emotional support, over 65% were males.
- Over 37% of CVD patients had a body mass index (BMI) greater than 30, and approximately 40% of the patients were former smokers.

Self-Reported Current Health Status (Table 2)

- Among CVD patients not receiving emotional support, a greater proportion reported that their current health status was "poor" compared with patients receiving emotional support (63% vs. 40%).
- Among males receiving emotional support, a greater percentage reported "good" health status compared with females receiving emotional support (63% vs. 56%).
- Among whites receiving emotional support, roughly two-thirds reported their health status to be "good." However, almost 60% of nonwhites receiving emotional support indicated that their health status was "poor."

Table 1. Characteristics of the US Adult (≥ 40 Years) Population With Cardiovascular Disease, by Emotional Support Status

	Inadequate Emotional Support		Adequate Emotional Support		P Value
	Weighted n	Weighted Column %	Weighted n	Weighted Column %	
Sex					
Male	904,444	65.3	8,019,770	53.0	0.1953
Female	480,348	34.7	7,124,115	47.0	
Age					
40-49	105,930	7.6	1,491,056	9.8	0.2581
50-59	429,697	31.0	2,421,707	16.0	
60-69	373,373	27.0	4,120,383	27.2	
≥ 70	475,792	34.4	7,110,740	47.0	
Mean age (SD)	64.7 (1.78)		67.0 (0.74)		0.2680
Race/ethnicity					
White	988,536	71.4	11,610,576	76.7	0.4536
Black	186,930	13.5	1,922,060	12.7	
Hispanic	153,794	11.1	827,149	5.5	
Other	55,532	4.0	784,100	5.2	
Weight category					
BMI < 25	328,327	23.7	3,087,927	20.4	0.7344
BMI = 25-29	317,780	22.9	4,741,752	31.3	
BMI ≥ 30	515,787	37.2	5,672,765	37.5	
Unknown	222,897	16.1	1,641,441	10.8	
Mean BMI (SD)	29.6 (1.38)		30.0 (0.28)		0.7530
Current smoker					
Yes	533,250	38.5	2,534,400	16.7	0.0036
No	851,542	61.5	12,609,485	83.3	
Former smoker					
Yes	556,624	40.2	6,086,478	40.2	0.9996
No	828,168	59.8	9,054,707	59.8	
Total	1,384,792	100.0	15,143,885	100.0	

SD = standard deviation.

Figure 1. Number of Days With Poor Physical Health, Poor Mental Health, and Inactivity Among Patients With CVD, by Emotional Support Status: Overall

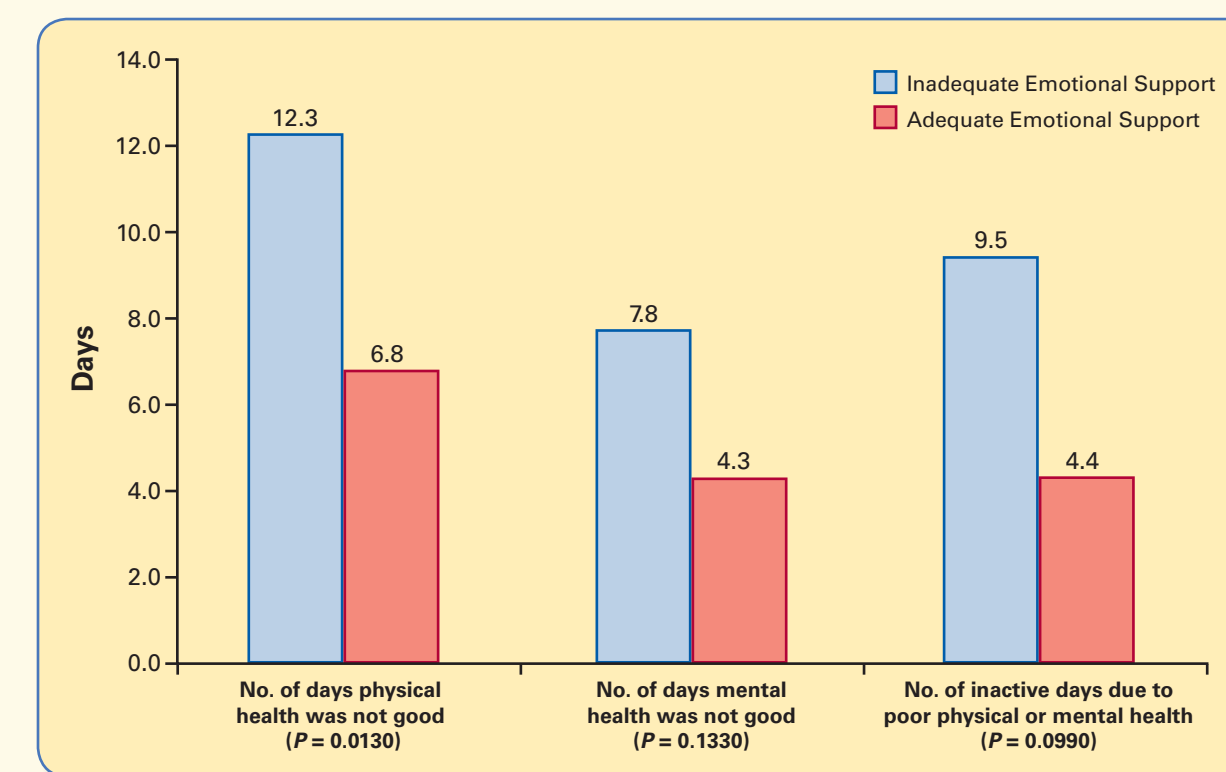


Table 2. Self-Reported Health Status Among US Adults With CVD, by Emotional Support Overall and by Sex and Race

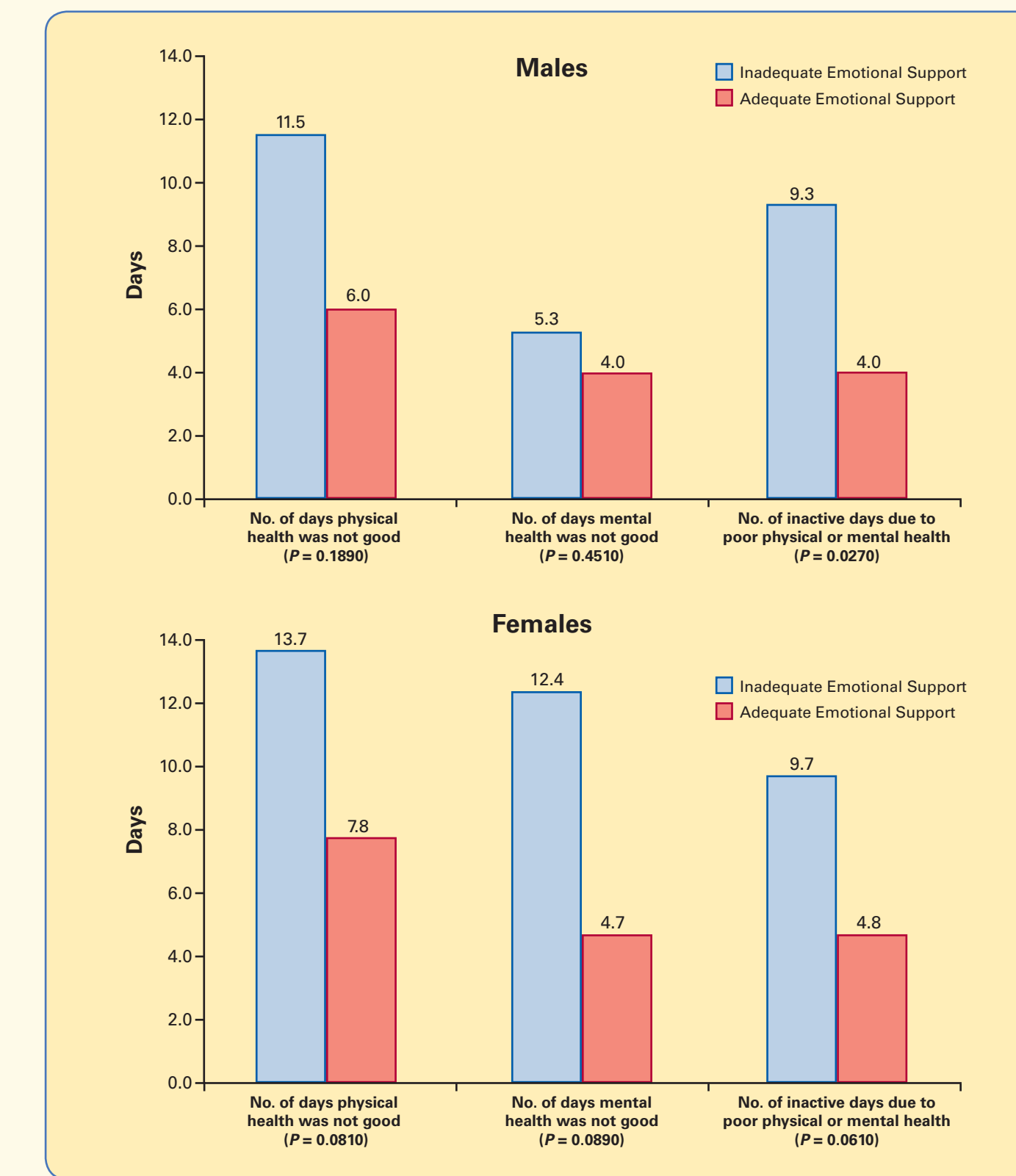
Health Status	Emotional Support*		Emotional Support*		Emotional Support		Emotional Support*		Emotional Support	
	Overall		Males		Females		White		Nonwhite	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	Weighted % (n = 12,995,295)	Weighted % (n = 1,121,894)	Weighted % (n = 7,077,762)	Weighted % (n = 730,794)	Weighted % (n = 5,917,533)	Weighted % (n = 391,100)	Weighted % (n = 10,004,527)	Weighted % (n = 747,292)	Weighted % (n = 2,990,768)	Weighted % (n = 374,601)
Poor	40	63	37	64	44	62	35	62	59	66
Good	60	37	63	36	56	38	65	38	41	34

*P < 0.05.

Days With Poor Physical Health, Poor Mental Health, and Inactivity Due to Poor Physical/Mental Health

- Compared with CVD patients receiving emotional support, the number of days with poor physical health (6.8 vs. 12.3 days; $P = 0.014$), mental health (4.4 vs. 7.8 days; $P = 0.137$), and inactivity (4.3 vs. 9.5 days; $P = 0.101$) were each approximately two times greater among patients not receiving emotional support (Figure 1).
- Compared with males, females had greater number of days with poor physical health, with (6.0 vs. 7.8 days) or without (11.5 vs. 13.7 days) receipt of emotional support (Figure 2).
 - However, similar difference in number of days with poor mental health was not observed among males and females receiving emotional support (4.0 vs. 4.7 days) (Figure 2).

Figure 2. The Number of Days With Poor Physical Health, Poor Mental Health, and Inactivity Among Patients With CVD, by Emotional Support Status: by Sex



LIMITATIONS

- Dependence upon self-reported data may bias the results.
- Inability to track patient experiences over time may bias the results (i.e., duration between the occurrence of cardiovascular event and assessment of health status and emotional support is not known).
- The small unweighted numerators inherent in subpopulation analyses may make the weighted estimates unreliable.
 - This unreliability may be exacerbated in subpopulation analyses, because the projected figures are, of necessity, taken from even smaller original sample sizes.

CONCLUSIONS

- A majority of patients with CVD diagnoses reported receiving some emotional support, and receipt of emotional support was associated with improved health status.
- Health care providers (e.g., physicians, pharmacists) should emphasize the value of emotional support to patients with CVD, which may help improve the physical and mental well-being of these patients.

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