

Low health literacy associated with higher rate of death among heart failure patients

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An examination of health literacy (such as understanding basic health information) among managed care patients with heart failure, a condition that requires self-management, found that nearly one in five have low health literacy, which was associated with a higher all-cause risk of death, according to a study in the April 27 issue of *JAMA*.

Health literacy is the degree to which individuals can obtain, process and understand basic health information and services needed to make appropriate health decisions, as defined by the Institute of Medicine. According to background information in the article, many U.S. citizens and as many as 1 in 3 Medicare enrollees have low health literacy. [Heart failure](#) is a common and complex chronic disease with a high risk of illness and death. "Although patients with heart failure are frequently hospitalized, much care for heart failure is performed on a daily basis by individual patients outside of the hospital. This self-care requires integration and application of knowledge and skills. Therefore, an adequate level of health literacy is likely critical in ensuring patient compliance and proficiency in self-management. Little is known about the association between health literacy and outcomes among patients with heart failure," the authors write.

Pamela N. Peterson, M.D., M.S.P.H., of the Denver Health Medical Center, Denver, and colleagues evaluated the association between low health literacy and all-cause mortality and hospitalization among a population of outpatients with heart failure. The study included patients with heart failure of an integrated managed care organization who were

identified between January 2001 and May 2008, were surveyed by mail and underwent follow-up for a median (midpoint) of 1.2 years. Health literacy was assessed using three established screening questions and categorized as adequate or low. Responders were excluded if they did not complete at least 1 health literacy question or if they did not have at least 1 year of enrollment prior to the survey date.

Of the 2,156 patients surveyed, 1,547 responded (72 percent response rate). Of 1,494 included responders, 262 (17.5 percent) had low health literacy. Patients with low health literacy were older, of lower socioeconomic status, and less likely to have at least a high school education. They were also more likely to have coexisting illnesses such as diabetes, hypertension, chronic pulmonary disease, and stroke.

There were a total of 124 deaths during follow-up, with 46 deaths (17.6 percent) in the low health literacy group and 78 (6.3 percent) in the adequate health literacy group. There were a total of 366 hospitalizations during follow-up, with 80 hospitalizations (30.5 percent) in the low health literacy group and 286 (23.2 percent) in the adequate health literacy group. After adjusting for demographic variables, socioeconomic status, education, comorbid conditions, year of cohort entry, and left ventricular ejection fraction (a measure of how well the left ventricle of the heart pumps with each contraction), low health literacy was independently associated with an increased risk of mortality. In adjusted models, low health literacy was not significantly associated with all-cause hospitalization.

The authors suggest that routine assessment of health literacy may help to identify a greater number of patients at risk for adverse outcomes.

"In conclusion, this study demonstrates that even among those with health insurance and access to health information, low health literacy as assessed by 3 brief screening questions is associated with higher

mortality. This finding supports efforts to determine whether interventions to screen for and address low [health literacy](#) can improve important health outcomes in [patients](#) with heart failure," the researchers conclude.

More information: *JAMA*. 2011;305[16]1695-1701.

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