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This series is coordinated by Sumi Sexton, MD, Associate Deputy Editor.

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Genetic Test Results That Identify Increased Risk Do Not Change Behavior

Clinical Question

Does genetic testing for disease risk motivate patients to change their behavior?

Bottom Line

Patients informed via genetic test results that they were at increased risk of disease did not subsequently alter their behaviors. For example, persons at increased risk of diabetes mellitus or hypertension were no more likely to change their diet or increase their physical activity. Fancy tests do not appear to be motivators for behavior change. (Level of Evidence = 1a–)

Synopsis

These researchers identified 18 studies by searching five databases, including the Cochrane Register, as well as by performing citation searches. The studies were randomized or quasirandomized controlled trials of adults receiving personalized DNA-based risk estimates for which a behavior change might reduce risk. In other words, persons at increased risk of disease—for example, smokers or patients with a family history of melanoma—underwent DNA analysis and were told if they had an increased risk based on a personalized risk estimate. Most of the studies were of low quality (which typically

favors treatment) and may have been too small to find small differences. Two authors selected studies for inclusion and abstracted the data. The studies were homogeneous. Overall, communicating specific risk did not change behavior. Telling smokers that they are at increased risk of lung cancer based on their genetic makeup did not induce them to quit smoking. Similarly, patients told they are at risk of melanoma did not use more sunscreen; patients at risk of developing diabetes, obesity, cardiovascular disease, hypertension, or Alzheimer disease did not change their diet or physical activity; and patients at particular risk of alcohol use disorder did not change their drinking habits.

Study design: Meta-analysis (randomized controlled trials)

Funding source: Government

Setting: Various (meta-analysis)

Reference: Hollands GJ, French DP, Griffin SJ, et al. *The impact of communicating genetic risks of disease on risk-reducing health behaviour: systematic review with meta-analysis*. *BMJ*. 2016;352:i1102.

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No Reduction in Readmissions with Telemonitoring, Coaching for Patients with Heart Failure

Clinical Question

Does a care transition intervention using telephone coaching and telemonitoring reduce readmissions for patients with heart failure?

Bottom Line

A care transition intervention that incorporates remote monitoring of weight, blood pressure, and heart rate with scheduled telephone coaching did not reduce readmission rates at 30 days or 180 days for patients with heart failure. However, patients in the study were only modestly adherent to the intervention strategies. (Level of Evidence = 1b)

Synopsis

Hospitalized patients 50 years and older who were being actively treated for heart failure with expected discharge to home were randomized, using concealed allocation, to receive the care transition intervention ($n = 715$) or usual care ($n = 722$). The intervention consisted of the following: (1) predischarge heart failure education using teach-back methods, (2) postdischarge scheduled telephone coaching calls weekly for one month, then monthly for five months, and (3) home telemonitoring using a Bluetooth-enabled weight scale and blood pressure/heart rate monitor with texting ability. All interventions were conducted by registered nurses. Usual care included predischarge education and one postdischarge telephone call. There were no significant differences at baseline in the two groups. The median age was 73 years, and most of the participants were in New York Heart Association class III or IV. In the intervention group, adherence to the intervention strategies was modest; only 61% and 55% were adherent to telephone calls and telemonitoring, respectively, at 30 days. For the primary outcome of all-cause readmission at 180 days, there was no significant difference detected, with a high readmission rate in both groups of approximately 50%. Mortality was also similar at 180 days. Quality-of-life scores were improved in the intervention group at the end of the study; however, this likely reflects differences in survey respondents vs. nonrespondents.

Study design: Randomized controlled trial (nonblinded)

Funding source: Government

Allocation: Concealed

Setting: Inpatient (any location) with outpatient follow-up

Reference: Ong MK, Romano PS, Edgington S, et al. Effectiveness of remote patient monitoring after discharge of hospitalized patients with heart failure: the Better Effectiveness After Transition-Heart Failure (BEAT-HF) randomized clinical trial. *JAMA Intern Med.* 2016;176(3):310-318.

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