



FINDINGS

More information on genetic risks is actually reassuring, study finds

FEBRUARY 09, 2016

A man — let's call him Paul — decides to undergo genetic testing to determine his risk of developing Alzheimer's disease. Paul's doctor reports back that he has elevated risk for that and another life-threatening illness: heart disease. How does Paul react?

Doctors have long worried that unanticipated genetic test results could harm patients, leading to depression, stress, or despondence.

A new [study](#) may allay those fears: Researchers at Brigham and Women's Hospital recently found that giving a person more risk information than they expected actually decreases mental distress and encourages healthy lifestyle choices.

"It is weird. You learn you are at risk for something, then you learn you are at risk for something else, and you feel better about it," says Robert Green, a medical geneticist at Brigham and Women's Hospital and coauthor of the study, published this month in the journal *Annals of Internal Medicine*.

Green and colleagues studied a group of 257 healthy adults that volunteered to be tested for a variant of the apolipoprotein E (APOE) gene strongly associated with Alzheimer's disease.



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The same APOE variant is also weakly associated with increased risk of coronary artery disease.

Half the volunteers tested for the APOE variant were also told about its association with risk of heart disease. Over the following year, Green's team periodically assessed the volunteers for anxiety, depression, and health behavior changes.

Surprisingly, of the patients who tested positive for the APOE variant, those who learned of their risk for both conditions experienced less distress than those who only received the Alzheimer's news. The extra information "seemed to help them cope with receiving their results," says lead author Kurt Christensen, also at BWH.

That may be because the second bit of information gave people a tangible way to respond to the results, says Christensen: There aren't proven ways to prevent Alzheimer's disease, yet it is possible to make lifestyle changes to try and avoid heart disease.

Another explanation is that the additional heart disease information helped to take the spotlight off Alzheimer's disease, so a person didn't feel acute distress about just one illness, but instead was reminded that we're all at risk for multiple diseases.

The results are the latest findings from the [Risk Evaluation and Education for Alzheimer's Disease \(REVEAL\) Study](#), a series of clinical trials testing how individuals receive and respond to genetic risk information about Alzheimer's disease. Overall, the study has found that people cope far better than doctors and policy makers expected they would when they test positive for the APOE variant.

Many use the information to prepare their children for the future, or even to make insurance or career changes. "No one is talking about foisting this information on people who don't want it," Green says. "But many people really do want this information, and they are able to process it quite comfortably."

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