**How we ignore doctors' genetic test warnings and just leave it to fate: Patients do little to change their lifestyle even if at high risk of a cancer of Alzheimer's**

* **Genetic testing allows scientists to tell whether we are likely to develop certain diseases**
* **But people tend to ignore the warnings and do not change their lifestyle**
* **Research led by Cambridge University analysed 18 studies involving more than 6,000 people**

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Telling someone they have a high risk of developing cancer or Alzheimer's does nothing to change their lifestyle, research suggests.

Genetic testing is one of the fastest moving aspects of medical research, with scientists now able to tell with a simple blood test whether we are likely to develop heart disease, lose our memory or fall victim to cancer.

Doctors have assumed until now that people given this information will take steps to reduce their risk - for example, by stopping smoking, changing their diet or taking up exercise.

But new research led by Cambridge University has established that people actually tend to ignore the warnings and accept their fate.

Communicating the results of genetic tests has 'little or no impact' on behaviour or lifestyle, the researchers found.

The team, whose work is published in the British Medical Journal, analysed 18 previous studies involving more than 6,000 people.

They found that people told they were at risk of skin cancer, for example, did not spend less time in the sun.

People were no more likely to enrol in screening programmes, and ignored advice about diet, physical activity and smoking.

The team, which also involved scientists from the University of Manchester and Imperial College London, said that a rethink is needed.

Genetic testing is being increasingly used in modern healthcare for a range of disorders.

Genome sequencing – reading an individual's entire DNA – has opened up the potential to provide individuals with information on whether or not they carry genes known to increase their risk of disease.

The tests are controversial. Critics say that just because someone carries a particular genetic variant does not mean they will definitely develop the disease.

But others argue that if an individual knows that he or she is at a greater risk of a particular disease, they can make an informed decision about whether or not to change their behaviour.

In extreme cases, women with the faulty BRCA cancer gene, famously carried by actress Angelina Jolie, sometimes choose to have their breasts and ovaries removed to remove the risk of cancer.

In more common examples, people whose DNA means they are more susceptible to heart disease are encouraged to take up exercise and cut down on drinking.

But the market for genetic testing is growing, with private DNA tests - most famously the £125 23andMe kit - now offering people a genetic report by post.

Study leader Professor Theresa Marteau, director of the Behaviour and Health Research Unit at Cambridge, said: 'Expectations have been high that giving people information about their genetic risk will empower them to change their behaviour – to eat more healthily or to stop smoking, for example – but we have found no evidence that this is the case.

'But nor does the evidence support concerns that such information might demotivate people and discourage them from changing their behaviour.'

The authors wrote: 'The results of this updated systematic review suggest that communicating DNA-based disease risk estimates has little or no impact on risk-reducing health behaviour.

'The available evidence does not provide support for the expectations raised by researchers and proponents of personalised medicine as well as direct-to-consumer testing companies that the receipt of results from DNA-based tests for gene variants that confer increased risk of common complex diseases motivates behaviour change.'

The researchers recognise that testing may still play a role in improving people's health.

Co-author Dr Gareth Hollands said: 'DNA testing, alone or in combination with other assessments of disease risk, may help clinicians identify individuals at greatest risk and allow them to target interventions such as screening tests, surgery, and drug treatments.'

A spokesman for 23andMe said: 'Data from UK 23andMe customers showed that most - more than 70 per cent - indicated the information they learned from their health and trait reports was 'extremely valuable'.

'It's important to note the way in which testing results are presented is a critical factor in gauging response.

'We've honed our approach to presenting information over nine years to effectively communicate genetic testing results in a way consumers can understand.'

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