BMJ 2016;355:i6444 doi: 10.1136/bmj.i6444 (Published 30 November 2016)

RESEARCH NEWS

Individualised advice on type 2 diabetes is no better for changing behaviour, study finds

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Giving healthy middle aged people individualised information based on their genetic risk of developing type 2 diabetes or their phenotypic factors such as body mass index has no greater effect on physical activity or other health behaviours than standard information about the condition, a UK randomised study has found.[1]

A growing number of direct-to-consumer genetic tests to calculate the risk of type 2 diabetes aim to motivate people to change their health related behaviour more than with standard lifestyle advice. But research evidence on the effect of this individualised information on behaviour is limited.

Researchers randomly allocated 569 healthy middle aged people (mean age 48.7 + 7.3 years) to three groups. The first group received standard lifestyle advice on how to reduce their risk of type 2 diabetes. The second group received this advice in combination with their genetic risk, estimated from a blood test for 23 single nucleotide polymorphisms associated with diabetes. The third group received the advice plus their risk estimated from phenotypic characteristics including sex, age, and body mass index.

The results, reported in *PLoS Medicine*, showed no difference between the three groups in objectively measured physical activity or self reported diet, body weight, or perceived risk of type 2 diabetes, eight weeks after the health advice.

People given information on their genetic risk of type 2 diabetes (the second group) increased their activity levels by a mean of 0.85 kJ/kg/day from baseline over the control group, but this was not statistically significant (95% confidence interval –2.07 to +3.77; P=0.57). Those given phenotypic risk information (the third group) showed a mean increase of 1.32 kJ/kg/day from baseline over the control group, which was also non-significant (–1.61 to +4.25; P=0.38).

Further results showed no significant differences between the three groups in self reported diet, weight, health, or worry at follow-up. They also showed no difference in behavioural intention or anxiety immediately after people were given health advice or eight weeks later.

The researchers, led by Job Godino, of the MRC Epidemiology Unit at the University of Cambridge School of Clinical Medicine, said, "We found that communicating an estimate of the risk of type 2 diabetes, either based on genotype or phenotype, did not motivate changes in behaviour in the short term, but neither did it cause an increase in worry or anxiety.

"The results . . . provide further evidence for a shift in focus for promoting healthy changes in habitual, environmentally patterned behaviours, such as physical activity and diet, away from interventions solely based on provision of information and advice to individuals towards interventions that target the wider collective determinants of disease."

1 Godino JG, van Sluijs EMF, Marteau TM, et al. Lifestyle advice combined with personalized estimates of genetic or phenotypic risk of type 2 diabetes, and objectively measured physical activity: a randomized controlled trial. *PLoS Med* 2016. doi:10.1371/journal.pmed.1002185.