

# Levels of antibodies in saliva are associated with risk of mortality

December 23 2015

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New research from the University of Birmingham has found that lower levels of antibodies in saliva are associated with of an elevated risk of mortality, and could be an early indicator of risk.

The study, published in *PLOS ONE*, examined associations between secretory immunoglobulin A (IgA), the common antibody found in saliva, and [mortality](#) rates in the general population.

There was a negative association between IgA secretion rate and all-cause mortality. Further analysis of specific causes of mortality revealed that the all-cause association was due to an underlying association with [cancer mortality](#) and, in particular with non-lung cancers.

The team believe that as it appears to be a marker of [mortality risk](#), and is much less invasive than blood sampling, saliva sampling to determine IgA secretion rate has the potential to be used as an indicator of overall health by professionals as part of a general check-up.

639 adults, from the eldest cohort of the West of Scotland Twenty-07 Study took part in the study. Participants, aged 63 years old at the time of [saliva](#) sampling in 1995, had their IgA secretion rate measured and the mortality rate was tracked over the following 19 years.

Associations were adjusted for gender, assay batch, household occupational group, smoking, medication usage, and self-reported health.

Immunoglobulins, or antibodies, are proteins secreted by [white blood cells](#) and are essential for combating infectious disease.

Dr Anna Phillips, from the University of Birmingham, explained, "There are a number of factors that can affect how well we produce antibodies and maintain their levels. There are some that we have no control over, such as age, heritability or illness, but our general state of health can also affect their levels; stress, diet, exercise, alcohol and smoking can all influence those levels."

"Quite how [saliva samples](#) could be used in check-ups remains to be seen, as we need to better understand what secretion rate would be considered cause for concern - what we call the protective level. We could certainly say that, if found to be extremely low, it would be a useful early indicator of risk."

The team believe that the next step would be to follow up with a larger longitudinal study, to investigate the link with infectious diseases and the development progression of disease like cancer to provide a greater understanding of the mechanisms behind the association found in the study.

Provided by University of Birmingham

Citation: Levels of antibodies in saliva are associated with risk of mortality (2015, December 23) retrieved 4 May 2024 from <https://medicalxpress.com/news/2015-12-antibodies-saliva-mortality.html>

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