

# Relatively low dietary intake of vitamins A and C boosts asthma risk

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(PhysOrg.com) -- A relatively low dietary intake of vitamins A and C boosts the risk of asthma, suggests a systematic analysis of the available evidence published ahead of print in the journal *Thorax*.

These findings clash with a large review of the evidence, which was published last year.

Observational studies in recent years have pointed to a link between dietary [antioxidant vitamins](#) — A,C, and E — and asthma. But the results of clinical trials have proved inconclusive, claim the authors, from The University of Nottingham.

In a bid to try and clear up the confusion, they conducted a comprehensive search of major databases of peer-reviewed research, abstracts of conference proceedings on asthma and wheeze, and bibliographies from 1980 to the end of 2007.

They found 40 relevant studies, which had looked at the association between vitamin intake and asthma and wheezing, out of more than 2,600.

The pooled results showed that dietary intake of vitamin A was significantly lower among those with asthma than in those who had not been diagnosed with the disease.

The average intake of 182 ug (microgram) a day was equivalent to

between a quarter and a third of the recommended daily amount of vitamin A.

And vitamin A intake was also significantly lower in those with severe disease than in those with mild asthma, equivalent to around half of the recommended daily amount.

Low circulating levels of vitamin C in the [bloodstream](#) and lower dietary intake of foods containing vitamin C were also associated with a 12 per cent heightened risk of asthma.

Vitamin E intake was not associated with a diagnosis of asthma, but blood levels were significantly lower among those with severe disease compared with those whose symptoms were mild.

This translates into an intake that is 2 mg/day or 20 per cent lower than the recommended daily amount for Vitamin E.

The findings for an association between dietary antioxidants and wheeze were less consistent.

The authors point out that their research does not conclusively prove cause and effect, but they suggest that the large review published last year, which found no association between antioxidants and asthma risk, was limited in its scope.

The authors wrote in Thorax: “...This meta analysis searched only for studies in adults published in English language journals and listed in only one electronic database.... and the analyses were based on a combined outcome of asthma or wheeze.”

They concluded: “Overall, our findings from [the current] systematic review and meta-analysis indicate that low levels of [vitamin C](#) intake,

and to a lesser extent vitamin A, are consistently associated with asthma risk to a degree that, if causal, would be sufficient to be clinically relevant.”

More information: Association between antioxidant vitamins and [asthma](#) outcome measures: systematic review and meta-analysis Online First Thorax 2009; doi 10.1136/thx.2008.101469

Provided by University of Nottingham ([news](#) : [web](#))

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