

Study: Vitamin A supplements could save the lives of 600 000 infants a year

An international study suggests that giving vitamin A supplements to children in low and middle income countries could significantly cut rates of mortality, illnesses and blindness amongst those below the age of five.



(Image: Wikimedia Commons)

Researchers from the University of Oxford and Pakistan's Aga Khan University have shown that vitamin A supplements reduce mortality amongst children from low and middle income countries by nearly a quarter (24%). According to the study, published in the online version of the British Medical Journal, the supplements were found to bring particular benefits in reducing rates of diarrhoea and measles.

The researchers from the University of Oxford's Centre for Evidence-Based Intervention and Pakistan's Aga Khan University Hospital are now calling for vitamin A supplements to be given to all children who are at risk of not getting enough of the vitamin in their diet. They believe the benefits are so clear cut that trials comparing vitamin A to placebo are no longer ethical.

43 trials

The findings are based on 43 trials in which some children received vitamin A while others received no intervention or a placebo. The sample included 215 633 apparently healthy children aged 6 months to 5 years in 19 countries, mostly in Asia. On average, the children were 2.5 years old when they were recruited for the trials and followed for about one year.

Lead author Dr Evan Mayo-Wilson, from the Department of Social Policy and Intervention at the University of Oxford, said: 'Our study shows that, until other sources are available, supplements should be given to all children who are at risk of vitamin A deficiency. After just one year children who had taken supplements were less likely to have died than children

who received a placebo. We estimate that by providing supplements to all children in countries where they are at risk we could save up to 600 000 lives a year and prevent millions of serious infections. Vitamin A supplements are highly effective and cheap to produce and administer.

'Our study also shows that systematic literature reviews are cost-effective and ethically imperative. Recent editorials criticising vitamin A programmes have received international attention, but the evidence taken as a whole leaves little doubt that vitamin A prevents early childhood mortality. The largest clinical trial ever conducted ran from 1999 to 2004 and assigned about a million children to receive vitamin A or placebo. Since that trial began, only one relatively small trial has examined vitamin A for childhood mortality.'

Shift in focus needed

Professor Zulfiqar Bhutta, the Chair of the Division of Women and Child Health, Aga Khan University, Pakistan, and the senior corresponding author of the study, said: 'This study underlines the need to shift the focus of attention towards an effective scale up of vitamin A supplementation programmes. We must ensure that the benefits are sustained with effective oversight by national programmes.'

Vitamin A is required for normal functioning of the visual and immune systems. It is an essential nutrient that cannot be synthesised by the human body, so it must be obtained through diet. Deficiency increases vulnerability to a range of infections including diarrhoea, measles, malaria and respiratory infections, which are the leading causes of childhood mortality. According to recent estimates by the World Health Organisation, 190 million under-fives don't get enough vitamin A to stay healthy.

Vitamin A is found in plants, such as the orange-fleshed sweet potato, eggs and dairy products. A high intake of synthetic vitamin A over a long period may lead to short-term side effects including vomiting, but side effects are rare, and taking supplements of vitamin A over relatively short periods (e.g. once every six months) should not cause serious adverse effects, says the study.

Notes

- 'Vitamin A supplements for preventing mortality, illness and blindness in children under five: a systematic review and meta-analysis' by Evan Mayo-Wilson, Aamer Imdad, Kurt Herzer, Mohammad Yawar Yakoob and Zulfiqar A Bhutta is published online in BMJ on Friday 26 August 2011. Click here to view full paper under embargo: <http://press.psprings.co.uk/bmj/august/vitamin.pdf>
- URL for readers to click on once embargo lifted: <http://www.bmj.com/cgi/doi/10.1136/bmj.d5094>
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- [The Department of Social Policy and Intervention](#) at the University of Oxford hosts the Centre for Evidence-Based Intervention. The department is an interdisciplinary centre of excellence for research and teaching in social policy and the systematic evaluation of social interventions, drawing on social policy, sociology, demography, political science, geography and psychology.
- [The Centre for Evidence-Based Intervention](#) specialises in high-quality evaluation of interventions for social and psychosocial problems, in particular through conducting randomised trials, systematic reviews and other evaluation designs. It also carries out basic research into causes of social problems, to enhance knowledge of intervention mechanisms.

The Centre is funded by the National Institutes of Health (NIH: NIDA and NIMH), Swedish Board of Health and Welfare, Danish Board of Social Research, UK Department for Education and Skills, UN Development Program, Health Foundation, Health Technology Assessment, Oxfordshire Mental Healthcare Trust, California State Office of AIDS, University of California, for randomised controlled trials, systematic reviews and studies of risk factors for social problems, in the fields of social welfare, HIV prevention, AIDS affected children, family and parenting

interventions for conduct problems, self-help psychological interventions and sleep disorders.

- The Aga Khan University, chartered in 1983, is a private, not-for-profit university that promotes human welfare through research, teaching and community service initiatives. Based on the principles of quality, access, impact and relevance, the University has campuses and programmes in 8 countries and facilities that include Faculties of Health Sciences including a Nursing School, a Medical College and teaching hospitals, Institutes for Educational Development, an Examination Board and an Institute for the Study of Muslim Civilisations. Through its needs-blind admissions policy, the University imbues the most promising leaders and thinkers of tomorrow with an ethic of service and the skills to help communities solve their most pressing challenges. The Aga Khan University is one of nine agencies in the Aga Khan Development Network, a group of private development agencies. For more, see <http://www.aku.edu>.

Source: University of Oxford

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