

DIET AND SUPPLEMENTATION · 14.5

Vitamin D and ADHD: Correlation, Cause and the Marketing Story

The correlational picture for vitamin D and ADHD is interesting; the causal evidence is much thinner. The pragmatic answer is that treating documented vitamin D deficiency is good general medicine for everyone in the UK, but supplementing for ADHD specifically is not supported by trial evidence.

FOR

Parents and adults asking about vitamin D in ADHD

AUDIENCE AGE

14+ years

REVIEWED

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PART OF

The NeuroFX resource library

IN SUMMARY

Vitamin D and ADHD: Correlation, Cause and the Marketing Story

What the evidence actually shows

- **The correlation is real.** Several observational studies report lower mean vitamin D in children with ADHD. The pattern is reasonably consistent. Biologically, vitamin D has roles in neurodevelopment, neuroinflammation regulation and dopamine signalling.
- **Correlation is not causation here.** Lower vitamin D in ADHD samples may be a downstream effect: more time indoors with screens, dietary differences, stimulant appetite suppression. The cause-and-effect direction is not established.
- **Trials are small and the effect is modest.** Most randomised trials of vitamin D supplementation in ADHD are short, underpowered and conducted in populations with high baseline deficiency. Effects are seen mostly in children with documented baseline deficiency, not in vitamin-D-replete children.

The general-medicine case

- **UK vitamin D deficiency is common.** SACN 2016 and current NHS guidance recommend that everyone in the UK consider a daily vitamin D supplement in autumn and winter. Specific groups (darker skin, infrequent outdoor exposure, infants, pregnant or breastfeeding) are advised to supplement year-round.
- **Testing makes sense where deficiency is suspected.** Particularly for adults with darker skin, those rarely outdoors, those with malabsorption, those on long-term stimulant medication. A 25-hydroxyvitamin D blood test is widely available.
- **Treat documented deficiency the standard way.** Replacement therapy at clinical doses under GP supervision. Do not self-treat with high-dose products without testing.
- **High-dose self-supplementation without testing is unwise.** Vitamin D is fat-soluble and accumulates. Sustained high-dose intake can cause hypercalcaemia, kidney stones and other manifestations of toxicity.

How the marketing diverges

- **ADHD-specific products often megadose.** Products marketed specifically for ADHD often contain doses well above standard UK guidance, sometimes combined with magnesium, K2 or other ingredients of uncertain ADHD relevance.
- **The claims reference correlation as causation.** Marketing language typically points to the correlational studies and does not name the absence of strong trial evidence. The pattern is the standard one set out in the pillar.
- **Standard low-dose supplementation is sensible; ADHD-specific megadosing is not.** Following standard UK guidance for general health is the right move. Treating vitamin D as an ADHD therapy on the strength of correlational data is not supported by the current evidence.

WHEN TO SPEAK TO A PROFESSIONAL

If you are considering vitamin D supplementation, follow the standard UK guidance for the population first. If you suspect deficiency, ask your GP for a 25-hydroxyvitamin D blood test; treatment of documented deficiency is straightforward primary care. Do not megadose without testing. NeuroFX assessment includes a review of current supplements; the clinical team can advise where vitamin D testing is worth requesting.

SOURCES

Goksugur 2014; Sharif 2015; NICE PH56; SACN 2016; NHS guidance; Faraone consensus 2021

NEXT STEPS**Speak to NeuroFX**

Private ADHD and autism assessment for adults and children aged 6 and upwards.
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