

IAFP GERIATRIC MIG PICO DE POEM



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Testosterone Supplementation and Cognitive Functioning in Men

PRESENTING QUESTION

Does testosterone supplementation (TS) play a role in enhancing cognitive functioning in men?

INTERVENTION

Several trials have investigated the effect of TS of cognitive functioning in men. One systemic review showed promising associations between TS and cognitive functions in men with both normal and low levels of testosterone and in men with and without cognitive impairment. Another systemic review also showed that TS to improve cognitive function was not supported by data in clinical trials. Conflicting conclusions may be due to study differences, including neuropsychological tests and treatment modalities.

COMPARATOR

Placebo

OUTCOMES

The current evidence indicates that TS on cognitive functioning in men with testosterone levels within normal ranges is regarded as insufficient magnitude to be of clinical relevance, while hypogonadal men remains to be investigated.

TIMEFRAME

Study Design: Systemic Review and Meta-Analysis

SYNOPSIS

Study selection yielded 21 articles presenting results of 23 independent studies subjected to meta-analysis. The study selection was selected based upon the Preferred Reporting Items for Systemic Reviews and Meta-Analyses guidelines. Eligibility involved population, male adults (>18 years); intervention, TS; comparison, placebo; and outcome, results of standardized neuropsychological tests. From the study selection, it was found that none treated samples of clinically hypogonadal men. The mean sample age was 64.9 years (SD = 13.0), and mean treatment duration was 33.4 weeks (SD = 42.1). Neuropsychological tests used in the 23 RCTs corresponded to 11 distinct cognitive domains. 17 out of the 23 studies included men who had testosterone levels within the normal range (mean total testosterone = 321-865 ng/dL), and 6 out of the 23 studies included men who had testosterone levels in low-normal range (mean total testosterone between 232-320 ng/dL). The overall primary outcome failed to reach statistical significance (Hedges $g = 0.09$; CI 95%: -0.02 to 0.19, $K=23$). The effects for the 11 distinct cognitive domains also failed to reach statistical significance (g : -0.04 to 0.19, P : 0.061 to 0.989).

KEY TAKEAWAY

- Although TS has been hypothesized in improving cognitive functioning in men, the current available evidence indicates that effects of TS on cognitive functioning in men with testosterone levels within normal ranges have been insufficient to be deemed clinically relevant
- Study samples would need to incorporate treating clinically hypogonadal men, as these remain to be investigated

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