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total from 5 to 35 (mean 25.3 (6.1)). Only participants with full cognitive and life satisfaction data were included (n = 416; 42.5% men); a further seven people were excluded who had mini mental state examination scores less than 24. Correlations between the satisfaction with life scale and IQ at age 11 (r = 0.00) and age 79 (r = 0.04) were not statistically significant. The relation between the satisfaction with life scale and cognitive change between ages 11 and 79 was also small and non-significant (r = 0.05, P = 0.30). The associations did not differ significantly between men and women.

Comment

In non-demented people aged about 80, satisfaction with life in late adulthood was unrelated to IQ in either childhood or late adulthood and to cognitive change in their lifetime. An association might have been expected as intelligence is a "highly valued resource in this society,"[3] and cognition is viewed as a key outcome in ageing. The lack of a cognition-life satisfaction relation could be due to the fact that higher ability is equally likely to lead to positive (increasing one's resources through entry to better employment, for example), as well as negative outcomes (an awareness of alternative lifestyles or a striving for greater achievement), which may be used when judging subjective wellbeing.[3] Shorter term changes in cognitive function may influence ratings of life satisfaction; continued assessment of the cohort will allow an investigation of this possibility. Or it might be that, if people have sufficient cognitive ability for important aspects of their lives, individual differences do not matter much, as suggested by Thomas Hobbes in *Leviathan*: "For such is the nature of men, that howsoever they may acknowledge many others to be more witty, or more eloquent, or more learned; Yet they will hardly believe there be many so wise as themselves: For they see their own wit at hand, and other mens at a distance. But this proveth rather that men are in that point equall, than unequall. For there is not ordinarily a greater signe of the equall distribution of any thing, than that every man is contented with his share."

The determinants of cognitive function and satisfaction with life are quite different: both are important for overall wellbeing. In promoting successful ageing it is necessary to know not only what protects cognition but also what predicts happiness.

Contributors: AJG analysed the data and drafted the paper. AP and MCW managed the study and collected the data. IJD planned the study, and IJD, LW, JS planned the cognitive data collection phase of the Lothian birth cohort 1921. All authors contributed to the editing of drafts. IJD is guarantor.

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Competing interests: None declared.

What is already known on this topic

Cognitive vitality has an impact on many aspects of functioning in old age

Satisfaction with life is not related to current cognitive ability, but changes in a lifetime may be associated with satisfaction with life

What this study adds

Cognitive ability at age 11, cognitive ability at age 79, and changes in cognition in a lifetime are not associated with satisfaction with life in old age

Ethical approval: Lothian Research Ethics Committee approved the Lothian birth cohort 1921 study. All participants gave signed consent.

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Corrections and clarifications

Role of multivitamins and mineral supplements in preventing infections in elderly people: systematic review and meta-analysis of randomised controlled trials

Only after the publication of this article by Alia El-Kadiki and Alexander J Sutton (*BMJ* 2005;330:871, 16 Apr) did the authors and editors become aware that doubts had been raised about the validity of three of the trials included in this systematic review.

The *BMJ* and the authors agreed that further analysis would be helpful, and the authors have therefore conducted a sensitivity analysis excluding data from the three questionable trials.This is now published as a supplement to the original paper (see http://bmj.com/cgi/content/full/bmj.38399.495648.8F/DC2).

The effect on the three outcome measures is as follows: *(a)* mean difference in number of days spent with infection: only the three questionable studies met the inclusion criteria, so the originally published beneficial difference of 17.5 (95% confidence interval 11 to 24) days is now completely discounted; *(b)* odds ratio of at least one infection in the study period: no change from published meta-analysis; *(c)* incidence rate ratio for the difference in infection rates: exclusion of the one questionable trial that was relevant to this outcome means that the pooled incidence rate is now 1.00 (0.85 to 1.17), not 0.89 (0.78 to 1.03) as published.

If the allegations that these three studies are not reliable are true then the remaining evidence base suggests no benefit for the use of multivitamins for preventing infections in elderly people.