Common Sense and the Limits to Life

Dear Editor

We would like to initiate scientific debates on the limits for human lifespan. This problem is urgent for two reasons at least. First, there are two subpopulations of scientists who have quite opposite views on this point (see below). Second, this problem may have important practical implications for geriatricians and caregivers since the patients whose age is already close to supposed 'longevity limit' may have a depression simply because of suggestion of soon inevitable death.

Let us first start with the statement of two opposite views on this problem and the necessity for scientific arguments rather than a common sense. For example, in his otherwise favourable review (Kirkwood, 1991) of our book (Gavrilov and Gavrilova, 1991) Dr Thomas B Kirkwood writes: 'I found a bit tedious the extended discussion... whether a species such as our own actually has a maximum lifespan. A modest dose of biostatistical common sense could have cut this discussion short'.

Our paradoxical conclusion is that there is not any absolute upper limit for the duration of human life. Common sense 'could have cut this discussion short' to quite opposite conclusion! For example, P. H. M. Lohman et al., (1992) set limits to life, arguing from the observation: 'although there has been substantial improvement in average lifespan, there has been no significant change in the average

maximum attainable lifespan of our species, which is estimated to be about 95 years.

This example clearly illustrates that scientific arguments rather than common sense should be used in discussion on whether a species such as our own actually has a maximum lifespan, although that may be 'a bit tedious'.

The results of our studies (Gavrilov and Gavrilova, 1991) clearly indicate that at any age there is a hope for further life. This conclusion was supported recently by others (Curtzinger et al., 1992).

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REFERENCES

Curtzinger, J. W., Fukui, H. H., Townsend, D. R. and Vaupel, J. W. (1992) Demography of genotypes: failure of the limited life-span paradigm in *Drosophilia melanogaster*. Science 258, 461-463.

Gavrilov, L. A. and Gavrilova, N. S. (1991) The Biology of Life Span: A Quantitative Approach Harwood Academic Publishers, Char, London.

Kirkwood, B. L. (1991) Tales of Old. The Biology of Life Span (Book Review) Nature 352, 767-768.

Lohman, P. H. M., Sankaranarayanan, K. and Ashby, J. (1992) Choosing the limits to life. *Nature* 357, 185-186.