> Clin Nutr. 2021 Mar;40(3):1186-1191. doi: 10.1016/j.clnu.2020.07.030. Epub 2020 Aug 5.

# Why women may live longer than men do? A telomere-length regulated and diet-based entropic assessment

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## Abstract

**Background & aims:** Empirical analyses of the data available around the word concluded that women have longer life span now, when compared to the men. Available literature unfortunately could not offer full answers to this observation. The "entropic age" concept suggests that ageing related changes in the body, such as loss of molecular functions and overwhelming of the maintenance systems, may be explained in terms of entropy generation.

**Methods:** Telomere-length regulated entropic assessment based on metabolic activity with four different diets carried out.

**Results:** Estimates of the life expectancy of the women on all of these diets is longer than those of the men. Faster shortening of the telomere lengths in men was the major reason of the shorter life expectancy. The highest and the lowest life expectancy for women were estimated with Mediterranean and the vegetarian diets, respectively; men were estimated to have the longest life span with the vegetarian diet and the shortest life span with the ketogenic diet.

**Conclusions:** A higher rate of metabolism causes higher entropy generation and hints correlations that can be helpful in future ageing research. Faster shortening of the telomere lengths in men was the major reason of the estimation of the shorter life span for men.