

# Kane Tanaka's 117th birthday and the Japan Supercentenarians age estimation

**Christos H. Skiadas**

Following a Guinness Records announcement, Kane Tanaka from Fukuoka, Japan has been officially confirmed as the **oldest person living** at 116 years 66 days old as of 9 March 2019.

However, our study from 2017 predicted at least one supercentenarian in Japan aged 118 in 2020. That is why Kane Tanaka's 117 birthday on Thursday January 2, 2020 was a critical point for the proposed theory and the mathematical expression providing the expected age of the highest age living person in Japan.

A simple equation for the Maximum Reported Age at Death ( $MRAD=0.1774*YEAR-240.53$ ) for Japan women provides estimates for the MRAD predicted. According to these estimates the expected MRAD for 2020 is 117.8 years of age corresponding to 117 years and 299 days, which is the 1<sup>st</sup> October for Kane Tanaka. A MRAD at 122 years of age should be reached by 2045 and a MRAD at 125 years of age is expected by 2060. Our estimates are based on Japan data from 1950 to 2014.

Special attention is due for three Japanese Women Supercentenarians exceeding the 117 years limit the past years. The estimates for Misao Okawa (date of death 1 April 2015 at 117 years and 27 days) give a  $MRAD=117.1$  corresponding to 117 years and 36 days). For Chiyo Miyako (date of death 22 July 2018 at 117 years and 81 days) give a  $MRAD=117.58$  corresponding to 117 years and 210 days). For Nabi Tajima (date of death 21 April 2018 at 117 years and 260 days) give a  $MRAD=117.52$  corresponding to 117 years and 190 days). The latter is disputed in the Gerontology Wiki list of the Japanese Supercentenarians.

The findings of our study on the "[Limits to Human Lifespan](#)" were published in The Springer Series on Demographic Methods and Population Analysis 46 whereas a related study was published in the previous Volume 45 of the same Springer Series.

Several technical details were resolved, especially by transforming the death data sets with the appropriate logarithmic method and finding the last surviving person or the related MRAD.

Japan data for centenarians and supercentenarians were ideal for our study. According to the data collected from the Human Mortality Database for 2018, the persons of 100 years old and older exceeded 70,000 with 62,572 women and only 8,661 men. The women of 110 years and higher, called supercentenarians, are 108 and the expected number of supercentenarians is only 1 per 580 or approximately 2 per 1000. This is double that of Europe. Even more, as the trend is steadily growing, the estimates can be satisfactory.

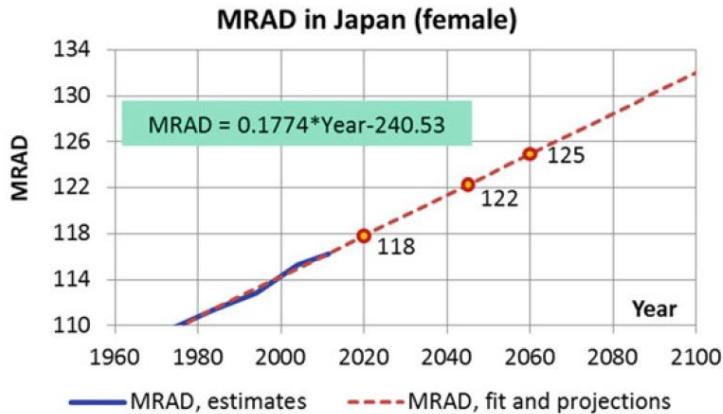


Fig. 2.7 Fit and projections for MRAD in Japan ( $R^2 = 0.991$ )

The Japan female population at 100 years of age steadily increases from 1950 and onwards. This is very important indicating an increase in the number of centenarians and supercentenarians (aged 100+ years of age) and thus increasing the probability of finding MRAD at higher ages.

Japan women have a very high life expectancy at birth ranked in one of the top few places in the World. More important is that 0.1% of the women population in 2018 is 100 years old or higher, forming the pool for the future supercentenarians.

The example of Japan strongly supports a growth of the maximum expected life span at least in some countries. And this is before the changes expected to come due to advances in science and medicine. Clearly, centenarians and supercentenarians in nowadays spend a large part of their life in the old system of medical science and services.

\* “Kane Tanaka’s 117th birthday and the Japan Supercentenarians age estimation” will be announced and further discussed in the Demographics2020 Workshop (2-5 June 2020, Barcelona, Spain, <http://www.smta.net/demographics2020.html> )

## Reference

Skiadas, C.H. (2018). Remarks on “Limits to Human Lifespan”, in *Demography and Health Issues: Population Aging, Mortality and Data Analysis*. The Springer Series on Demographic Methods and Population Analysis 46. Springer: Cham, Switzerland. <https://doi.org/10.1007/978-3-319-76002-5>, [https://link.springer.com/chapter/10.1007/978-3-319-76002-5\\_2](https://link.springer.com/chapter/10.1007/978-3-319-76002-5_2)

Christos H Skiadas  
 ManLab, Technical University of Crete  
 Former Vice Rector, Technical University of Crete  
 Email: [skiadas@cmsim.net](mailto:skiadas@cmsim.net)  
 Web: [www.cmsim.net](http://www.cmsim.net)