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Worldwide demography of centenarians

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HIGHLIGHTS

- Out of the 5 countries studied, the decrease in mortality at age 100 for females who are leading the adult longevity revolution, seems to be interrupted in 4 countries, including in Japan. These results are in favour of the scenario of "compression of mortality"

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ABSTRACT]

The global number of centenarians should strongly increase during the 21st century. According to the Population Division of the United Nations it should reach more than 25 million people in 2100. To better understand the dynamics of the emergence and growth of the centenarian population, we focused on four European countries having long chronological series and high quality data about centenarians, Denmark, France, Sweden, and Switzerland, and Japan which has had the highest life expectancy at birth for several years. we analysed the emergence of the centenarian populations and their pace of growth in the wider context of the adult longevity revolution, as well as the trends in mortality level among these new populations. We found that out of the 5 countries studied, the decrease in mortality at age 100 for females who are leading the adult longevity revolution, seems to be interrupted in 4 countries, including in Japan. These results are in favour of the scenario of "compression of mortality", possibly limiting the future number of centenarians. However, previous studies have shown that demographic transitions are not linear and, after periods of interruption, trends can resume towards an always greater longevity.

[INTRODUCTION] Past, present, and future number of centenarians in the world

Since 1990 the Population Division of the United Nations (UNDP) monitors the global number of centenarians. The series published in the 2015 Revision of the World Population Prospects goes from 1990 to 2100, with a first estimate of 96,000 centenarians in 1990 (United Nations, Department of Economic and Social Affairs, Population Division 2015). This number reached 125,000 in 1995 and 160,000 in the year 2000, i.e., a multiplication by 1.7 in 10 years. Then it reached 220,000 in 2005 (i.e., a multiplication by 1.8 in 10 years), 319,000 in 2010 (i.e., a multiplication by 2.0 in 10 years) and 451,000 in 2015 (i.e., a multiplication by a little more than 2.0 in 10 years). In other words, the global number of centenarians increases more and more rapidly over time, reaching at the beginning of the 21st century a pace of growth already attained in Western Europe in the 1950s or 1960s (Vaupel and Jeune 1995).

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