Big, rapid gains made in human lifespan: study

October 15 2012, by Randy Dotinga, Healthday Reporter

Researchers say 72 is the new 30.

(HealthDay)—It's said that life is short. But people living in developed countries typically survive more than twice as long as their hunter-gatherer ancestors did, making 72 the new 30, according to new research.

Most of the decline in early mortality has occurred in the past century, or four generations, a finding that calls into question traditional theories about aging, the study authors noted.

"I still can't believe how recent most of the progress is," said Oskar Burger, lead author of a study published online Oct. 15 in Proceedings of the National Academy of Sciences.

But there's a larger message from the research: Our estimates about the limits of human lifespans may be too low.

The study findings "make it seem unlikely that there is a looming wall of death ... which kills off individuals at a certain age" because of genetic mutations that build up as we age, said Burger, a postdoctoral fellow at Max Planck Institute for Demographic Research in Rostock, Germany.

The study authors analyzed the mortality rates in the western world today and those of prehistoric hunter-gatherers. "We show that human mortality has decreased so substantially that the difference between hunter-gatherers and today's lowest-mortality populations is greater than the difference between hunter-gatherers and wild chimpanzees," the researchers wrote.

For example, hunter-gatherer humans were about 100 times more likely to die before age 15 than today's residents of Japan and Sweden. And the study says hunter-gatherers were as likely to die at age 30 as Japanese people are at age 72.

But the human lifespan didn't grow gradually over thousands of years. The big jump occurred after 1900 in what the study authors call a "rapid revolutionary leap."

What accounted for the decrease in mortality rates over the past century? "Certainly clean water, better shelter, food and medicine all make a difference," Burger said. But it's difficult to figure out which had the most effect and when.

However, many parts of the world haven't benefitted from the big growth in lifespan, he noted.

In the big picture, the research challenges the idea that genetic mutations

over a lifetime prevent humans from living very long, Burger said.

"Without changing our genetic code at all, we have all of this improvement in mortality at these ages where these mutations should kill us off," Burger said. "And we got all this improvement without 'fixing' any of these mutations that are predicted to cause our bodies to break down in various ways."

Other experts aren't so sure.

Ronald Lee, director of the Center on Economics and Demography of Aging at the University of California, Berkeley, said he's not convinced that the findings challenge current scientific viewpoints about lifespan. Instead, modern lower mortality rates don't "seem inconsistent with the theories, given the great improvements in medicine, water quality, sewage disposal, nutrition, control of violence and accidents," Lee said.

It's still the case, though, that "we still do not know the limits, if any, to the improvements in human longevity that have been occurring rapidly and steadily over the past two centuries," he said.

More information: Visit the U.S. Centers for Disease Control and Prevention for the latest mortality statistics.

"Human mortality improvement in evolutionary context," by Oskar Burger, Annette Baudisch, and James W. Vaupel, *PNAS*, 2012.