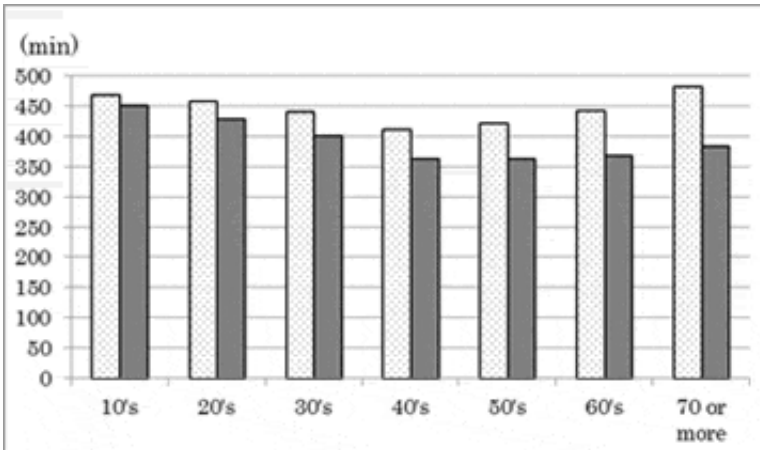


Does sleep really shorten when we get older?

December 2 2014, by Sunao Uchida



As we age, the quality of our sleep gets gradually worse. People who were able to sleep deeply all night in their twenties become increasingly likely to wake up in the night in their forties. This is a common change to sleeping patterns that can happen to anyone as a result of ageing, and is not abnormal. As we enter old age, our sleep becomes even lighter and we wake up frequently during our sleep.

Another change that occurs to us in old [age](#) is that we tend to go to bed early and wake up early. This has been explained by the fact that lower energy levels in old age mean we tire more easily, causing more people to go to bed early and wake up early as a result. For the same reason, another change that occurs in old age is increased frequency of [daytime naps](#). One characteristic of old age is increased variation between

individuals' levels of health and energy. For this reason it goes without saying that there will also be people who claim that the above does not apply to them, that they tend to stay up late and lie in late, and do not nap.

However, according to the NHK Japanese Time Use Survey carried out from 1960 onwards, the amount of [time](#) dedicated to sleep every 24 hours increases as we enter old age. So does sleeping time actually increase as we age?

The Ministry of Health, Labour and Welfare recently reviewed its sleep guidelines for the first time in 11 years and published the Sleep Guidelines for Health Promotion 2014, which contains 12 guidelines related to sleep. It is my opinion that these are very good guidelines containing important information that can help Japanese citizens obtain good quality sleep and that the guidelines can contribute to promoting the health of many people. However, there is one item regarding sleep advice for the elderly which I believe needs to be treated with caution. The following item is included in the 12 guidelines published by the Ministry of Health, Labour and Welfare:

9-(2) Get into the habit of not sleeping excessively beyond what is appropriate for your age:

Objective investigations using brainwaves have shown that the actual time we can spend asleep during the night (net sleeping time) decreases as our age increases (Ohayon et al. 2004).

However, in reality we spend increased amounts of time in bed the older we get (NHK Japanese Time Use Survey 2010). The explanation for this may be that many elderly people are freed from daytime restrictions such as work or study and are able to dedicate sufficient time to sleep.

However, it has been pointed out that spending more time than necessary in

bed can lead to waking during sleep, a loss of deep sleep and insomnia (Wehr et al. 1999). For this reason, caution is advised about spending too long in bed.

The Ministry of Health, Labour and Welfare Guidelines provide important information in the sense that they would inform any [elderly people](#) who believe they need to sleep more than is actually necessary that such long amounts of sleep are not required. However, does sleep really shorten when we get older? The above item cites the research carried out at Stanford University by Ohayon et al. and the NHK survey. Ohayon et al. calculated "[sleep efficiency](#)" as the time actually spent asleep as a percentage of time spent in bed and showed that sleep efficiency decreases in old age. In other words, they calculated data showing that sleep efficiency decreases using analyses collected from numerous nighttime sleep studies. According to this data, the amount of time spent actually asleep in the nighttime decreases in elderly people.

As described above, elderly people often sleep several times during the day, including daytime naps, and the NHK survey includes daytime naps as part of time dedicated to sleep.

The debate has been carried out without making a distinction between these sleeping times. In other words, time spent in bed is measured over a 24-hour period including daytime naps, whereas sleeping time is measured only by looking at nighttime sleep. From this perspective, robust data on how much time is actually spent sleeping by elderly people in a 24-hour period has not been submitted.

I decided to estimate the amount of time spent asleep per day as we age using the percentage of time actually spent asleep according to Ohayon's research compared to the total time dedicated to sleep indicated by the NHK survey (Uchida, S. 2014). The results can be seen in the graph below. According to the graph, time asleep is shortest in our forties and

fifties, and increases thereafter.

The graph above does not show actual measurements of time asleep, and is no more than an estimate based on the other two sets of data. What's more, if we consider the lifestyles of most Japanese people, rather than showing that we do not need as much sleep in our forties and fifties, there is a possibility that the data shows that people of this age are not getting enough sleep because of work and lifestyle pressures. Because of the insufficient data, we also cannot deny the possibility that the amount of sleep that we actually need gradually decreases from our thirties through to our seventies.

As shown above, we do not yet have sufficient basic data showing how much time people spend sleeping in each age group. Sleep is an essential element of the mental and physical health of the nation. I believe that further [sleep research](#) could provide great benefits if we can provide better information about getting healthy [sleep](#).

More information: Ohayon MM, Carskadon MA, Guilleminault C, Vitiello MV. "Meta-analysis of quantitative sleep parameters from childhood to old age in healthy individuals: developing normative sleep values across the human lifespan." *Sleep* 27(7) (2004): 1255–73.

Uchida S. "Does sleep really shorten when we get older?" *Sleep and Biological Rhythms* 12(4) (2014): 308–309.

Provided by Waseda University

Citation: Does sleep really shorten when we get older? (2014, December 2) retrieved 27 April 2024 from <https://medicalxpress.com/news/2014-12-shorten-older.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.