Exploring the power of stillness to reduce stress and slow aging

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Credit: AI-generated image (disclaimer)

Meditation can curb the risk of disease and boost general well-being for the old and young, according to researchers.

Several minutes of meditation a day can improve people's physical and mental health and even reduce the risk of Alzheimer's and

cardiovascular disease. So say scientists.

Nonetheless, a lack of evidence means health services are reluctant to make meditation available to everyone who could benefit, according to the leader of research into the matter.

Push for change

"I'm convinced meditation is one of the tools that could help make people healthier and happier as they get older," said Gaël Chételat, coordinator of the MEDIT-AGEING project.

While the project ended in March 2022 after six years, Chételat hopes the results will help bring about changes in healthcare. She continues to push for them as director of research at France's National Institute of Health and Medical Research, or INSERM.

By 2050, the global population of people over 60 years old will reach 2.1 billion, according to the World Health Organization.

Chételat and her INSERM team had been studying Alzheimer's disease and aging for more 20 years when MEDIT-AGEING began in 2016.

Her own experience with "mindfulness"—a form of meditation that focuses on the present moment by tuning into the breath, sounds or bodily sensations—provided inspiration to look more closely at this area. So did her knowledge of the main risk factors of neurodegenerative diseases.

"The more I practiced meditation, the more I thought it could be really beneficial to the aging population," Chételat said.

Evidence suggests that mindfulness meditation improves concentration

and memory and reduces stress, anxiety, depression, sleep disorders and even the risk of heart disease.

These are all factors linked to an increased risk of developing Alzheimer's and other neurodegenerative diseases, according to Chételat.

Trial of elders

MEDIT-AGEING's goal was to provide evidence for health authorities to incorporate mindfulness in their support for the elderly. The idea was that such a step could not only improve older people's quality of life but also reduce healthcare costs.

Between 2018 and 2020, MEDIT-AGEING conducted the world's largest and longest trial on the effects of mindfulness meditation on seniors, focusing on people aged 65 years and over.

The 18-month trial divided 137 people into three groups. One learned mindfulness meditation, a second learned English and the third received no training.

Meditation and non-native-language training included two-hour weekly group sessions, practice of 20 minutes or longer daily at home and one day of intensive activity.

Questionnaires, blood tests and scans of people's brains were used to assess general health and look for signs of chronic stress and Alzheimer's. Sleep quality was also measured and cognitive tests were used to gauge attention, executive function and memory.

Particular attention was given to two parts of the brain known to be associated with cognition: the anterior cingulate cortex and the insular cortex.

These structures tend to deteriorate with age, increasing the risk of cognitive decline and dementia. Meditation may slow this shrinkage as people age, according to Chételat.

Language powers

A strength of the study was the use of the foreign-language learning.

Like meditation, learning a foreign tongue involves cognitive mental training and has been shown to have a positive impact on some brain structures.

The results of the trial confirmed that meditation had a significant effect on people's attentiveness and ability to regulate their emotions. In the brain scans, however, no significant changes were yet apparent.

While the trial results were published in *JAMA Neurology* in October last year, Chételat's team is now testing the 137 participants again in a bid for more insights.

One question is whether some physical changes become visible only when people clock up more meditation time than they did in the trial. A second is whether such changes appear only several years after people have done a chunk of consistent meditation.

Study participants interviewed for a documentary film about the trial said it had changed their lives, relationships with others, understanding of their bodies and acceptance of themselves.

"Things like that are extremely difficult to measure," said Chételat. "But what they say is very important, touching and positive."

The MEDIT-AGEING team is developing an app of mindfulness and

compassion meditations for elderly people due to be available as of early 2024.

Student samples

For Ivana Burić, a post-doctoral research fellow at the University of Amsterdam in the Netherlands, interest in mindfulness emerged while she was recovering from a traumatic traffic accident that led to several surgeries.

Practicing mindfulness not only helped her physical healing but also led to positive knock-on effects in other areas of her life.

Now Burić is leading a two-year project called INSPIRER, which is due to end in October.

Using similar tests as MEDIT-AGEING, she is researching mindfulness among university students.

Burić, also a trained mindfulness teacher, says many of the benefits stem from people learning how to manage difficult thoughts or emotions without getting caught up in them.

Practicing mindfulness lowers stress levels—with important consequences yet to be fully understood.

It can reduce stress-induced inflammation, which otherwise increases the risk of illnesses including anxiety, depression, asthma, cardiovascular disease, stroke and neurodegenerative disorders.

"It seems to help with most mental health and many physical problems as an addition to standard treatments," said Burić.

Mind-body works

Burić recruited 100 people—50 meditators and 50 non-meditators—and carried out MRI scans, blood tests for signs of inflammation and questionnaires about the participants' mental and physical health.

The questionnaire results suggest that meditators have better physical and mental health and emotional regulation—and lower stress levels.

Burić also recruited about 80 students from the University of Amsterdam for a trial on the effects of a standard eight-week introductory course on mindfulness.

"We wanted to see if we can observe changes in them in that short time and compare them with long-term meditators," she said.

Initial results from questionnaires suggest an increase in mental and physical health.

Like Chételat, Burić hopes that scientists will soon have enough proof to persuade policymakers to offer mindfulness to anyone with mental health or chronic health conditions.

She also hopes it will become available in schools, universities and workplaces.

"Mindfulness meditation works, it's very simple, it doesn't cost much money and anyone can do it," said Burić.

More information:

- MEDIT-AGEING: cordis.europa.eu/project/id/667696
- INSPIRER: cordis.europa.eu/project/id/101033080

- MEDIT-AGEING study: silversantestudy.eu/

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