

# Study: Meditation can change brain structure and function

Philippine Daily Inquirer · 29 Dec 2020 · C2 · JAIME LICAUCO INQ Tel. 0998-9886292, 88107245; email jaimetli-cauco@yahoo.com; watch our webinar at innermindlearning.com.

Ever since the practice of meditation came to the attention of the Western world in the early 1960s, it has always been accompanied by controversy, arguments and debate. Advocates and practitioners of meditation point to the many health benefits it brings. Others, like the Catholic Church, condemn it as the work of the devil and discourage its members from practicing it. But the Church is known for its tendency to condemn anything it does not understand, like astrology, the tarot card, feng shui, yoga and even quartz crystals.

So, what is meditation? There are many definitions of it. The simplest definition is, it is a mental practice of quieting the mind and stopping all internal dialogue or self-talk. In meditation, the person focuses his attention inward rather than outward for about 15 to 30 minutes.

Another more elaborate definition of meditation goes like this: “It is a mind and body practice that has a long history of use for increasing calmness and physical relaxation, improving psychological balance, coping with illness and enhancing overall health and well-being.”

A report from National Health Interviews Survey showed that the number of practitioners of meditation in the United States increased significantly from 2012 to 2017. Unfortunately, we do not have any statistics we can cite for the Philippines.

Earlier scientific studies of meditation showed it definitely has many health benefits, such as calming the nerves, lowering blood pressure, maintaining a steady heart beat, reducing pain and sleeping better. But recent scientific studies using more advanced brain scanning equipment showed that regular practice of meditation can even change the very structure and thickness of our own brain to function better, according to Eileen Luders, assistant professor at the University of California at Los Angeles Laboratory of Neuroimaging, Department of Neurology.

## Long-term meditation

Long-term meditation, the researchers discovered, thickens the brain and strengthens the connection of brain cells. This change is technically called “gyrification,” which means a folding of the cortex which may allow the brain to process information faster.

The amount of gyrification increases the longer one meditates. In the prefrontal part of the cortex, researchers found that 50-year-old meditators had the same amount of gray matter as 25-year-olds. According to a Harvard study, eliciting the “relaxation response,” as Harvard cardiologist Herbert Benson refers to meditation, could even affect the genes. Another interesting finding is that there is a difference between simply being quiet, relaxing one’s body and practicing meditation.

Recent studies using more advanced brain-scanning machines showed a big difference between the two.

“Nondirective meditation yields more marked changes in electrical brain wave activity associated with wakeful relaxed attention than just resting without any specific mental technique. Electrical brain waves suggest that mental activity during meditation is wakeful and relaxed.”

In other words, simply closing your eyes and keeping quiet is not the same as practicing meditation, no matter how simple the technique used.

So, how does one meditate and for how long? One study showed that half an hour of meditation daily for eight weeks is sufficient to show changes in brain structure. Other studies show that less time than this can also produce results.

However, one need not sit in a lotus yoga position (with the crossed legs) to meditate properly. And one does not need to follow an artificial way of breathing.

#### **4 essential factors**

According to Dr. Benson, who was one of the pioneers in the scientific study of meditation, there are only four essential factors or elements for a successful meditation practice. They are:

1. A quiet environment to avoid distraction
2. A mental device to focus attention
3. A passive attitude
4. A comfortable position

You don't even need a mantra or a secret word supposed to be given by a guru to a student to be repeated during meditation. Any mental device, such as repeating the word “one, one, one,” will do.

Also, any position you assume will do as long as you are comfortable with it.

Of all the four factors for a successful practice of meditation, only a mental device and a passive attitude are essential.

These neuroscientific research findings disprove the old age that “You can't teach old dogs new tricks.” The human brain can be trained to grow and become more effective as one gets older.

But simply closing your eyes and keeping quiet is not the same as practicing meditation, no matter how simple the technique used.