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Exercising your brain power

Like your muscles, your mind needs regular workouts to remain in top shape as you age, but don't sweat it -- it can be easy and fun

By KELLY BOTHUM, The News Journal

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The average adult human brain weighs about 3 pounds. When compared with our jiggly abs, thighs and arms, it's usually not the first body part we think of to exercise.

But that's exactly what we should be doing, say a growing number of researchers and health professionals who study brain health. These experts believe that by exercising our mind daily, we can slow the development of age-related memory problems and even more serious conditions such as dementia.

"Muscles need ... a workout to keep them toned. The same goes for the brain," said Dr. Ausim Azizi, chairman of the neurology department at Temple University School of Medicine, in Philadelphia. Daily mental stimulation -- at least a couple hours a day in the form of word puzzles, social interaction and physical activity -- allows neural pathways in the brain to continue to grow, he said.

Without something to keep us mentally charged, our brains, like unused muscles, can atrophy, leading to a decline in our cognitive abilities.

This is about more than trimming mental flab. Although brain workouts aren't believed to prevent Alzheimer's disease or other forms of dementia, they can reduce the severity of the effects and extend the time before people with these diseases are disabled by them, Azizi said.

A study of 2,100 senior citizens published last year in the Journal of the American Medical Association found that even a brief amount of memory training can help. The study looked at seniors 65 to 94 who participated in a 10-week training program on memory and reasoning. It found participants outscored other seniors on tasks like looking up phone numbers and reading medicine labels, even five years later. Seventy-year-olds who participated typically showed the mental dexterity of 60-year-olds.

"The important thing is keeping yourself as mentally stimulated as you can," said Lynn Grattan, director of the Neuropsychological Diagnostic and Research Laboratory at the University of Maryland School of Medicine, in Baltimore. "If your family life is mentally stimulating, then certainly that can be enough. But you should also try novel things. Make sure you're actively problem-solving and having to use your memory."

Like everything else, it seems, the brain follows the mantra of "use it or lose it."

Keep on playing those mind games

Game manufacturers are taking advantage of all the hoopla over brain fitness. Web sites like SharpBrains.com and PositScience.com offer online brain fitness programs that promise to boost mental sharpness and cognitive skills.

Even Nintendo, better known to kids and teens than their grandparents, has gotten into the game. It developed "Brain Age," a video program that includes games like Sudoku, Tetris and math-based puzzlers.

"We predict the same surge in brain exercise that occurred with physical fitness in the '70s," said Alvaro Fernandez, co-founder of SharpBrains. "People are realizing that cross-training their brains in addition to their bodies is essential to overall health."

Activities like puzzles, online games and memory builders can be good for people, such as empty nesters or those living alone, who don't otherwise have a source of mental stimulation, said Grattan, also an assistant professor of neurology, epidemiology and preventive medicine. Senior centers and community organizations also are sources of mental stimulation.

Working the body, too, is important to mental health, Azizi said. Research shows that people who are physically active have better memories than those who aren't. It's believed that chemicals released during physical activity stimulate the brain.

Get organized

Brain changes, usually beginning around 40, are common, Grattan said. These changes can lead to memory lapses, like forgetting someone's name or where your keys are. The problem can be exacerbated by stress, fatigue, medical conditions and drug interactions.

A good way to combat the problem is to make organization a habit, starting as early as possible, she said. That means keeping important papers where you know you can find them, keeping track of your appointments and reducing clutter -- the hallmark of disorganization.

Grattan also advises people to use mnemonic devices.

"Highly organized, efficient people who are flexible and can adapt to change will have better preserved memory into aging," she said. "They're automatically compensating because they have the adaptive skills. If you live in a scattered fashion and you take that same disorganization into your senior years, that's going to be a problem."

Grattan, who sees patients with memory problems, said she can almost instantly gauge a person's likelihood of overcoming them by noting whether they carry an important accessory -- a day planner. It shows they are already organized and likely to follow a routine.

"Usually they are the people who are adapting better," she said. "I see this as a lifespan issue. You create a habit learning how to be organized. It's hard to learn later in life."

The proactive Alzheimer's patient

With more than 5 million Americans suffering from Alzheimer's disease, plenty of attention is being focused on ways to slow progression of the disease. To that end, the Alzheimer's Association created "Maintain Your Brain," a program aimed at helping people make healthy lifestyle choices that may delay some of the symptoms of the progressive neurological disorder.

The program, presented free to groups, encourages a brain-healthy lifestyle, including staying physically and mentally active, eating well and getting health problems under control. Although there's no definitive research to document how much of a difference this kind of lifestyle can make when it comes to delaying Alzheimer's, it offers people a proactive approach to living, said Jen Miller, spokeswoman for the Delaware Valley chapter of the Alzheimer's Association.

"It's better than nothing," she said. "It's a shame because there are these really intelligent, proactive people who still get the disease, and they do everything right. At least, this is something you can do to try."

Azizi said Alzheimer's researchers believe patients with higher education and activity levels take longer to develop the disease, although when they do get it the decline is more rapid. Other research has suggested that obesity, high blood pressure and smoking raise the risk of memory loss.

Siobhan Gannon, a program coordinator with the Delaware Valley chapter, talks to Delaware senior citizens about these ways to maintain their brain. In addition to reminders about staying active, she also encourages participants to take stock of their lives. Do they work too much? Worry too much? Enjoy too little? Then perhaps it's time to make a change, she suggests.

"I like to talk about a person taking care of their personal life, really having a purpose in their life," Gannon said. "If they are hard-working people, maybe they're not spending time with their family. How good is it for your brain to be stressed and working when you prefer to go home and be with your family at 5 o'clock?"

Making the best of it

At the Gull House, an adult day care program for Alzheimer's patients in Lewes, clients practice brain teasers, listen to old music, play Wheel of Fortune and grow plants, said Kathleen Graham-Frey, incoming director of the program run by Beebe Medical Center. More than just recreational, the activities are important in helping clients with their memory.

For seniors who remember the World War II-era Victory Gardens, digging in the dirt often stimulates memories from decades ago. The same happens with old music. Alzheimer's patients initially can remember old memories but can't hold onto recent ones, such as those that happened that day.

"Our therapeutic approach is to maintain what's there. We know [Alzheimer's] isn't going to go away, but to slow the process down is a plus," she said. "We use activities as the intervention."

Graham-Frey said physical activity also is an important component. Nearly every day clients try simple stretches to get them energized and their blood flowing. The center has bowling, and in the summer they play bocce. Nearly all activities are done in a group to encourage social interaction.

"We want to keep them from being isolated. When that happens, you can spiral down fast," she said. "Here, they have company. They have each other. They have us."

And when it comes to battling the demons of memory loss, the benefits of staying active and socially involved can't be underestimated. Azizi said research being done on animals suggests that the more active the body and mind are, the better chance the brain has of producing new neurons.

In other words, the more we use it, perhaps the less likely we are to lose it.

FOR MORE INFORMATION

The following Web sites offer brain-related resources including quizzes, statistics, research and more:

www.dana.org -- The Dana Foundation, a philanthropic organization that focuses on brain science and immunology.

www.aarp.org/health/brain/ -- AARP offers brain research, tips and more to help older people keep their minds fit.

www.alzheimers.org -- The Alzheimer's Disease Education and Referral Center is a service of the National Institute on Aging.

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