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As Minds Age, What's Next? Brain Calisthenics

By PAM BELLUCK

Is there hope for your hippocampus, a new lease for your temporal lobe?

Science is not sure yet, but across the country, brain health programs are springing up, offering the possibility of a cognitive fountain of youth.

From "brain gyms" on the Internet to "brain-healthy" foods and activities at assisted living centers, the programs are aimed at baby boomers anxious about entering their golden years and at their parents trying to stave off memory loss or dementia.

"This is going to be one of the hottest topics in the next five years -- it's going to be huge," said Nancy Ceridwyn, co-director of special projects for the American Society on Aging. "The challenge we have is it's going to be a lot like the anti-aging industry: how much science is there behind this?"

Dozens of studies are under way. Organizations like AARP are offering tips on brain health. And the Alzheimer's Association conducts hundreds of Maintain Your Brain workshops, many at corporations like Apple Computer and Lockheed Martin.

At least two health insurers are pushing brain health. MetLife is giving prospective clients a 61-page book it commissioned called "Love Your Brain." Humana will provide, free or deeply discounted, \$495 worth of brain fitness software to some four million older customers, and offers "brain fitness camps" with the software at computer stores and community colleges.

There are Web sites like HappyNeuron.com, which offers subscribers cranial calisthenics, and MyBrainTrainer.com, marketed to anyone who "ever wished you could be a little quicker, a little sharper mentally."

And Nintendo's Brain Age, a video game intended for baby boomers and their elders, features simple math, syllable-counting, word memory activities and the quick reading aloud of passages from the likes of Poe and Dickens, which "gives your prefrontal cortex a workout," the instructions say.

"I just felt that, Hey, this is something I ought to do," said Roy Gustafson, 85, who tried it at a Nintendo promotion at his Redmond, Wash., retirement community. He quickly got top scores (his "brain age" was low 20's), and decided to quit while ahead. But almost daily, he plays the Sudoku games in the handheld device, saying, "It keeps me alert."

Whether the hopes for brain health programs are realistic is still largely unknown, scientists say.

Certainly most brain-healthy recommendations are not considered bad for people. They do not have the potential risks of drugs or herbal supplements. And things like physical exercise and Omega-3 fatty acids help the body, even if they do not end up bettering the mind.

"All of the things are good for you to do in general," Dr. Elizabeth Edgerly, a clinical psychologist with the Alzheimer's Association, said. "Do I have concerns? Yes. We're very cautious. Is it going to mean you can remember where you left your car keys? We can't say that."

Still, the appeal of the programs is strong.

Epoch Senior Living in Providence is among the many assisted living facilities with "brain fitness centers." Surrounded by posters of Einstein, Rodin's "Thinker," and "Brain Facts" ("one billion glial cells in the human brain"), residents spend an hour a day for eight weeks doing computer exercises involving recalling story details and distinguishing similar-sounding syllables.

David Horvitz, 92, an Epoch resident, said, "It did improve my concentration, particularly when I read. Before, my mind would wander and I'd have to reread passages several times. It also seems to me that I'm remembering names a little bit better."

Emeritus Assisted Living, a chain, started a brain health program for residents, their families, staff members and people in the community. So far, centers in Florida, Massachusetts and South Carolina offer "brain-healthy" foods like salmon and walnuts, activities like spelling bees and reminiscing games, prizes to staff members for recalling brain health trivia, and a "brain health self-assessment" questionnaire asking, among other things, if people play challenging board games, walk 10,000 steps a day, or eat flax seed three times a week.

The brain program at the Isle at Emerald Court in Tewksbury, Mass., an Emeritus facility, includes a five-day-a-week regimen of leg lifts and stretches on the burgundy jacquard lobby chairs, influenced Ray Decker to choose the center for his mother, Joan, 75, who is in the early stage of Alzheimer's.

"Those types of things may stimulate her brain and, despite her debilitating disease, she actually may come back a little," said Mr. Decker, 57, who plans to adopt brain-healthy activities. "I think that this will keep my mother healthy for some time to come, actually extend her life in a mental and physical manner."

While there is encouraging animal research, experts say human studies have generally relied on observations of people with healthier brains, but have not tested whether a particular behavior improves brain health. Perhaps people with healthier brains are more likely to do brain-stimulating activities, not the reverse.

"Right now," said Dr. Marilyn Albert, director of cognitive neuroscience at Johns Hopkins University, "we can't say to somebody, 'We know that if you walk a mile every day for the next six months, your memory's going to be better.' We don't know that if you do certain kinds of puzzles it's going to have a benefit."

In addition, few scientists believe brain health activities prevent dementia, only that they might delay it.

The strongest evidence suggests that cardiovascular exercise also probably helps the brain, by improving blood circulation, experts say.

"What's good for your heart's probably good for your head," said Dr. Lynda Anderson, chief of health care and aging studies at the federal Centers for Disease Control and Prevention, which last year received the first Congressional appropriation to study brain health.

Similarly, Dr. Albert said that heart-healthy foods were probably brain-healthy foods.

As for brain-training exercises, studies show improvement from them, though not necessarily in real-life activities, said Dr. David A. Loewenstein, professor of psychiatry and behavioral sciences at the University of Miami medical school.

In a National Institute on Aging study, people given at least 10 hours of training in memory, reasoning or processing speed showed improvement, which held five years later. People reported slightly less difficulty in everyday skills, like handling medication and making telephone calls, but most of those results were not significant, researchers reported.

Dr. Loewenstein, meanwhile, found that people with early Alzheimer's who were trained in real-life tasks like face-name recognition and balancing checkbooks improved significantly in those skills. People given computer memory and concentration games and crossword puzzles did not do as well on real-life tasks, although many thought they were improving, he said.

"Just because you're able to recall a story better after six weeks may not mean that it's had any demonstrable effect on everyday life," Dr. Loewenstein said.

Posit Science, a San Francisco company that makes the brain fitness software used by Epoch and Humana, said its own studies, some published, showed that its software improved memory and mental focus.

"We've seen more than 10 years of improvement," said Jeff Zimman, the company's chief executive. "In processing speed, people who were on average 80 years old were performing like 30-year-olds in speed at those tasks."

Posit, one of several making such software, hopes to adapt it for people with early Alzheimer's, AIDS-related dementia and schizophrenia. Mr. Zimman envisions other uses: corporations hoping to improve brains of older employees; sports enthusiasts and hobbyists honing, say, bird-watching skills.

Emeritus Assisted Living has partnered with Dr. Paul Nussbaum, a neuropsychologist advocating social, mental, spiritual, nutritional and physical ways to promote brain health, to make its 180 homes "brain health centers for the community," said Chris Guay, a divisional director of operations. The Isle at Emerald Court hands out brain-shaped stress balls and plans to fly a brain flag out front. One administrator tried stimulating her brain by writing with her opposite hand (with barely legible results). The maintenance director wears a pedometer and gives them to visitors. An Emeritus center in Florida is lobbying grocery stores for brain-healthy food displays.

Mr. Guay said he hoped the program would attract "more people to fill our buildings" and "help us retain employees."

Some experts say even if there is little cognitive benefit, there may be psychic benefit to mental exercises.

"I feel my brain is better," said Dorothy Pereshluha, 84, a resident at Isle at Emerald Court, who had trouble finding her room and remembering names when she moved in.

Alice Babulicz, 75, a resident at Wartburg Assisted Living in Mount Vernon, N.Y., which uses brain fitness software, said she paid more attention in church and was so energized that "now I can walk four or five blocks."

And Marcia Mittleman, 88, who took Epoch's course twice, with graduation and a medal, said that psychologically, it "filled a void."

Asked if her cognitive function improved, she replied, "Did it make me smarter? No."

Suddenly, she scanned the room. "Did anyone see my walker?"

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