Study Shows Large Improvements in Long COVID Symptoms and Return to Work

San Francisco, May 5, 2025 (GLOBE NEWSWIRE) — Researchers at the University of Alabama at Birmingham (UAB) have identified what is believed to be the first intervention found in a randomized controlled trial to show large and very large improvements in multiple symptoms associated with Long COVID, and to result in people debilitated by those symptoms returning to work. The study deployed progressively challenging computerized brain exercises alongside a progressively challenging coaching approach. The brain exercise used in the study is commercially-available only in the brain exercise app, BrainHQ made by Posit Science.

While estimates of those still coping with Long COVID vary, some 20 million Americans have been diagnosed with Long Covid, and an estimated 9-10 million still report symptoms, with nearly 14% reporting an inability to return to work even 90 days after infection.

The UAB study showed that the intervention resulted in statistically significant and very large benefits on its primary measures of performance and satisfaction with daily activities.

It also showed significant benefits in many secondary measures, including large to very large benefits on depressive, fatigue, and brain fog symptoms, as well as a significant benefit in brain processing speed, and a trend toward large benefits on anxiety symptoms. No significant change was noted in a measure of global cognition.

Perhaps, most strikingly, the researchers reported that eighty percent of the non-retired participants in the intervention group returned to work, and none in the control group.

This was a modest-sized study designed primarily to assess feasibility and to help scope follow-on studies. The researchers enrolled 16 community residents, who were three or more months past COVID infection, with mild cognitive impairment and with dysfunction in the performance of instrumental activities of daily living. Participants were randomly assigned to the intervention or to a wait-list control.

The intervention is based on the science of neuroplasticity, which has established that intensive, repetitive, and progressively challenging activities can drive beneficial changes to the brain. The approach is based on the seminal work of Dr. Michael Merzenich, who upended the field of brain science four decades ago, by showing that brains remain plastic — capable of chemical, physical and functional change — at any age.

After discovering lifelong plasticity, Dr. Merzenich first harnessed plasticity in his co-invention of the cochlear implant to restore hearing to hundreds of thousands of people. For the past three decades, he has focused on creating computerized brain exercises to improve brain health and function. He is the Co-Founder and Chief Scientific Officer of the company that makes the BrainHQ exercises.

The intervention in this study reflects further work in plasticity of two distinguished UAB faculty members. Dr. Karlene Ball pioneered plasticity-based exercises to address age-related cognitive decline. Her UAB colleague, Dr. Edward Taub, developed plasticity-based, constraint-induced movement therapy to address movement disorders. His supportive and progressively challenging coaching inspired the coaching used in this study.

Prior studies of BrainHQ exercises in older adults, and in patients with various health conditions, (cancer, heart failure, multiple sclerosis, schizophrenia, mild cognitive impairment) suggested the kind of improvements seen in this study (in cognition, daily activities, depressive symptoms, stress, fatigue, and employment status). However, the magnitude of the improvements in this study were quite large as compared to some prior studies.

"That may be because this study population had substantial deficits with room for substantial improvement, or it may be there is extra benefit from combining the exercises with this type of coaching," commented Dr. Henry Mahncke, CEO of Posit Science. "Either way, it suggests that brain training is a promising approach to helping people with Long COVID."

"It's been a long road to address Long COVID," observed Dr. Mahncke. "We hope this will be a turning point in identifying tools to address a condition that is often quite debilitating."

BrainHQ exercises have shown benefits in more than 300 studies. Such benefits include gains in cognition (attention, speed, memory, decision-making), in quality of life (depressive symptoms, confidence and control, health-related quality of life) and in real-world activities (health outcomes, balance, driving, workplace activities). BrainHQ is offered by leading health and Medicare Advantage plans, by leading medical centers, clinics, and communities, and by sports, military, and other organizations focused on peak performance. Consumers can try a BrainHQ exercise for free daily at https://www.brainhq.com.

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