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Apps the way to go with brain injury rehab.

Portable touch-screen technology can help patients overcome the debilitating effects of memory loss due to brain injury, according to an Australian study. Researchers at the Royal Rehabilitation Centre in Sydney have been using smartphones and electronic tablets to help patients remember daily tasks such as taking medication, remembering appointments and recalling names and faces.

Chief investigator Belinda Carr, professional leader of occupational therapy at the Royal Rehabilitation Centre, says many brain injury patients suffer problems with their memory.

"When patients experience a brain injury, some people can't remember information from one day to the next," she says.

The research team attempted to overcome this by using personal digital assistants (PDAs) to prompt memory.

Carr says the research, due to be presented at the Occupational Therapy Australia Conference starting tomorrow on the Gold Coast in Queensland, shows patients using the smart technology had "significant fewer memory failures".

"The number and seriousness of memory failures improved [and] importantly the client's caregivers reported lower frequency of forgetting," Carr says.

The study, undertaken between 2006 and 2009, involved 42 people with brain injuries ranging from severe memory problems to moderately severe memory impairment. The patients were predominantly men with an average age of 35 years. While the control group used diaries to assist their memories, other participants in the trial were given PDAs to log information such as appointments and times for medication.

Participants were then given an hour of one-on-one training each week for eight weeks in using the PDA. She says the training in the use of the gadgets is critical to the program's success and the participants are given small cue cards that stay with the technology to remember how to input information.

Greater gains

Carr says the study builds on previous research that shows the use of diaries helps people with brain injuries to improve their functional memory. But she says the work shows modern touch-screen technology is an even better tool in helping people with brain injuries. She says there are many contributing factors behind this, including the willingness of the patients to use the new technology.

"People with brain injuries are predominantly young males under 25 years and carrying around a diary now is not very cool," she says. "Having an iPhone doesn't make them look any different [to everyone else] so they want to use it."

Carr says the reduction in memory failures does not mean patients' memories are improving, rather the alarms on the new technology are prompting them to do something. The technology allows the people with brain injuries to be more independent and, critically, reduces the amount of carer hours that need to be funded, she says.

It can also help in a return to work with the technology prompting them to remember tasks they are meant to perform. Carr says the research suggests technology could also be useful in overcoming memory loss through diseases of ageing.

"Our study had an upper limit of 65 years," she says. "[But] this research has a follow-through for people with dementia and other age-related memory loss."

Since the original study the PDAs have been upgraded, with clients at the rehabilitation centre now using smartphones and electronic tablets, says Carr. "We're finding many apps are very useful for our clients," she says, citing an app that can help locate a phone when it is lost.

Carr hopes apps will be developed "specifically to help people with brain injuries" but believes use of the technology as an aid for patients will grow.

"More and more we will see iPhones and iPads being used in a therapeutic setting," she says.