KESSLER FOUNDATION Podcast Transcript

Researchers identify specific cognitive deficits in individuals with spinal cord injury-Ep10

*** Recorded on Monday, September 24, 2020. *** Listen to it here.

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JOAN BANKS-SMITH: 00:06

This is Joan Banks-Smith for Kessler Foundation's Fast Takes, research that changes lives. Today I'm with Dr. Trevor Dyson Hudson, director for the Center for Spinal Cord Injury Research in the Center for Outcomes and Assessment Research at Kessler Foundation, to talk about his latest peer reviewed article, Patterns of Cognitive Deficits in Persons with Spinal Cord Injury, as Compared to with Age Matched and Older Individuals Without Spinal Cord Injury. Funding sources for the study was the New Jersey Commission on Spinal Cord Research and Rehabilitation Research and Development Service. Dr. Tyson Hudson, can you share with us the main takeaways of this study?

TREVOR DYSON-HUDSON: 00:46

We know that there are differences in physical and physiological functions in people with the higher neurological levels of spinal cord injury versus those with lower. For example, those with tetraplegic have impaired upper limb function as well as lower limb, whereas people with paraplegia have intact upper limb function. It's the legs and trunk that are most commonly affected. So in this study, what we are trying to do is compare the 59 individuals with spinal cord injury and we had 30 with tetraplegic and twenty nine with paraplegia. And we compared them to a group of age matched, non-spinal cord injury controls, and those groups underwent neuropsychological testing. We were looking at attention and working memory and processing speed, executive control, and learning and memory. And what we found, interestingly enough, was that there were differences. So, for example, those with paraplegia had lower test performance on new learning and memory testing compared to healthy controls. And the group with tetraplegic showed a significantly impaired performance on processing speed tasks compared to the healthy controls. And that both people with tetraplegic and paraplegia were similarly impaired on verbal fluency measures. So what, again, this highlights is that within groups, there can be differences on cognitive performance based on the level of injury. Now, there's a number of different takeaways from this for what does this imply? It just means that with each group you can't just group everybody together, everybody in spinal cord injury is affected the same way. That those with different levels of injury may be affected differently.

BANKS-SMITH: 02:57

What is the impact and implications of the study to the field?

DYSON-HUDSON: 03:01

These are very preliminary findings, and so I think it warrants further follow up. Again, repeating some of these measures, what is the cause of this? Is it because people with tetraplegia are using their arms as much? So is there an impact of blood flow? There's obviously physiological differences between the two groups? Because those with higher level injuries have lower blood pressure and so does that impact cognition? But

the people with paraplegia were affected, too. So, again, I think this is an early study, so more work clearly needs to be done.

BANKS-SMITH: 03:46

For more information about the study, check out the press release on our website, kesslerfoundation.org here at the Journal of Neurology. Links can be found in the program notes. Be sure and subscribe to our SoundCloud channel, Kessler Foundation, for more research updates.

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