A focus on female vets

When Lisa M. James, PhD, arrived at the Brain Sciences Center at the Minneapolis Veterans Affairs Medical Center in 2010, the young scientist was very much aware that researchers there had just shown that magnetoencephalography (MEG) could be used to diagnose post-traumatic stress disorder (PTSD). In a 2010 article published in the Journal of Neural Engineering, they reported being able to distinguish, with better than 90 percent accuracy, between brain scans of people who did and did not have PTSD.

James was interested in building on that work, most of which had been done using male veterans as subjects. But she had a fresh question: What about female veterans?

James knew women had higher rates of PTSD than men (the rate is estimated at 20 percent for women compared with 8 percent overall) and experienced different types of trauma. “Whereas combat exposure might be more common in male veterans, things like sexual trauma are more common in female veterans,” she explains. And there was some evidence that women might have a different neural signature of PTSD than men. Most important, women were participating in the military in unprecedented numbers and hadn’t been studied much. It seemed to her that an intentional focus on female veterans was warranted.

James designed a research project, applied for and got a VA grant, and last August began a three-year study that will eventually include 200 female veterans in this region. She has two main goals: defining the neural signature of PTSD for women and finding a genetic basis for why some women might be more resilient than others. Specifically, she’s looking at a gene called apolipoprotein E, which she’s found to be associated with PTSD symptom severity.

James and her team are asking female vets about their military experience, trauma history and mental health status; drawing blood for genetic tests; and having the women spend about five minutes lying on a table while recording their brain activity using MEG. She hopes the work will have clinical applications. “Our goal is that we’d have this neural signature for PTSD in women that we can then use to potentially diagnose women vets and track treatment outcomes,” she explains.

Although James says it’s too early to talk about findings, this research has already attracted the attention of the American Association of Medical Colleges, which is highlighting projects aimed at rectifying a health or health care inequity related to mental health (see “Snapshot”). “We’re recognizing that there are women vets,” she says, “and they merit study as well as men.” – CARMEN PEOTA

Snapshot

The “2015 Health Equity Research Snapshot” highlights how research can be used to end a mental health or health care disparity. To watch brief videos about the work of Lisa M. James and others, go to www.aamc.org/initiatives/research/healthequity/427334/2015snapshot.html#.

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