RESEARCH - Ann M. Rasmusson, MD

Ann M. Rasmusson, MD, received a Bachelor of Science from North Dakota State University where she graduated with highest honors in the Scholars Program. After two years at University of North Dakota School of Medicine, she graduated from the University of Chicago School of Medicine in 1984 where she received the American Medical Association's Rock Sleyster Award for "Outstanding Promise in Psychiatry". She completed a Pediatric internship and residency at Johns Hopkins Children's Medical and Surgical Center, in which she is Board certified. She moved to the Yale Child Study Center, one of the very few child psychiatry programs at the time carrying out NIH funded research, for a four-year research fellowship from 1987 to 1991. She then completed a three-year Psychiatry residency at Yale in 1994, in which she is also Board certified.

She was appointed an Assistant Professor of Psychiatry at Yale in 1994 and was promoted to Associate Professor of Psychiatry when she moved to Boston University School of Medicine in 2008. She was selected for "Best Doctors" in 2011, which speaks to her clinical expertise. She also received the Henry L. Bolley Award for Academic Achievement from North Dakota State University in 2018, which recognizes outstanding academic accomplishments of an alumna (us). In 2021, she was promoted to Professor of Psychiatry at Boston University.

Aside from her appointment as a research psychiatrist at the VA National Center for PTSD, Women's Health Science Division, she is also a research psychiatrist at the Translational Clinical Research Center at Massachusetts General Hospital. Her scientific publication metrics are outstanding: 90 peer-reviewed articles and 17 chapters, over 12,000 citations to her publications, an h-index of 52 (meaning that 52 of her publications have been cited at least 52 times) and an i-10 index of 82 (the number of publications cited 10 times or more). Her research is currently supported by NIMH RO-1 and a VA grant.

Since her fellowship at Yale, her research has focused on the neurobiology and pharmacology of anxiety and anxiety disorders through a combination of translational (animal) and clinical research. Using a fear conditioning model, she and her colleagues defined in the rat the role of the amygdala in regulating the monoaminergic input to the frontal cortex and provided pharmacologic strategies to optimize frontal lobe function to promote recovery. She demonstrated that women with PTSD, depression and high rates of childhood trauma had increased release of both cortisol and DHEA and that cortisol reactivity correlated with time since trauma exposure. Notably, she found that an increase in dehydroepiandosterone (DHEA) in PTSD appears to be a positive adaptation that mitigated PTSD symptoms.

She has also made important contributions to our understanding of neurosteroids in anxiety disorders. Neurosteroids are metabolites of progesterone, allopregnanelone and pregnanalone, that activate GABA receptors. She discovered that reduced CSF levels the neurosteroids correlated with PTSD symptoms and associated depression. These deficiencies appeared to be due to an inhibition of 3alpha-hydroxysteroid dehydrogenase. She demonstrated a PTSD block of the enzyme and a negative correlation of the neurosteroid levels and memory consolidation. Working with the rat model, she showed that a single dose of an analogue of allopregnanalone, ganaxolone, after brief exposure to the adverse conditioning cues appeared to block memory reconsolidation and attenuated PTSD-like symptoms. These findings serve as the basis of her current NIMH grant to develop pharmacologic interventions based on the neurosteroid pathway to attenuate the development of PTSD after trauma exposure.

The MPS is pleased to present Dr. Ann M. Rasmusson with the Massachusetts Psychiatric Society 2024 Outstanding Psychiatrist Award for Research.