Aussie neuroscientist tests addiction drug

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UQ pharmacy graduate Dr Selena Bartlett is starting clinical trials of a drug that could potentially curb addictions such as smoking, drinking, gambling even depression.

The drug, marketed as Chantix or Champix by Pfizer, has reduced alcohol consumption in laboratory rats by 50 percent and will be trialled in humans next month by Dr Bartlett and Dr Markus Heilig's team in the United States.

Champix latches onto ‘good feeling' receptors in the brain to block cravings for addictions such as nicotine or alcohol.

Dr Bartlett is the Director of the Preclinical Development Group at the Ernest Gallo Clinic and Research Centre, one of the world's top alcohol and addiction research centres, at the University of California in San Francisco.

She said she was convinced of the drug's potential but it had been hard to convince others, despite the drug gaining widespread media attention in the US.

“Big companies still do not believe in the potential of addiction as a market, believe it or not,” Dr Bartlett said.

The Champix trials are just one of 10 major projects for Dr Bartlett's lab team, which is working on reducing ethanol consumption and new drug screening technologies.

Dr Bartlett was asked to set up her preclinical lab to study addiction and how it modifies brain function.

“I wanted to make a difference in the world and develop treatments that would help people,” she said.

“Addiction is currently one of the most under-served and least understood.”

Her passion for understanding brain functions stemmed from her late-sister who had schizophrenia.

“She is still very much a driving force in my life and the reason I am doing this type of translational research.”

She also hopes to create a Foundation to fund research and develop better treatments for neuropsychiatric diseases such as schizophrenia, in memory of her sister.

Dr Bartlett grew up in the small South Burnett town of Nanango, where her parents ran the local pharmacy for 35 years — until last November.

She went to UQ like many of her siblings, parents and her husband's parents and grandparents going back to the 1920s.

She studied pharmacy at UQ with a Bachelor, Hons and PhD by 1994, with the expectation that she eventually work back in the family pharmacy.

By the time she finished her pharmacy study with a focus on morphine tolerance and dependence, she had also found two loves — her husband and neuroscience.

“I loved my time at UQ. It changed my life. I went in with all intentions of becoming a practising pharmacist and left a neuroscientist.

“I became addicted to the thrill of a new discovery and research . . .I also fell in love with neurosciences.

“I could see that understanding the neurobiological basis of addiction would provide valuable insights into brain function but also would help to uncover the causes of this devastating disease.”

Dr Bartlett and her husband Peter, also a UQ student at the time studying electrical engineering and computer science, met while windsurfing at the Gold Coast.

After working in Australia they moved to the US and then Dr Bartlett was offered the job of setting up a lab to develop a new model of translational research.

“I was advised not to do it. This is where being Australian and my early experiences in Nanango really kicked in. I decided to give it a go.”

She said growing up in a small country town and her time in the family's pharmacy gave her a pioneering attitude, fearlessness and stubbornness.

“I remember counting pills the old way, one by one, or ten by ten.

“I have vivid memories of my dad making ointments on a glass slab.

“My dad used to make industrial quantities of ointments at one time. The ointment was gooey and took forever to make, sometimes hours.

Source: University of Queensland