

## **The Future of Healthcare: PNIRS 2014 – PHILADELPHIA**

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By Dr. Derek Conte

Last week, 250 research scientists, young and old, men and women, came together from around the world to Philadelphia to present the latest research on the massive and crucial subject of psychoneuroimmunology, the study of how our thoughts, emotions and perceptions affect our body chemistry, physiology and resistance to sickness and disease. The research was vast in volume and scope, dizzying even to the scientists themselves. The background of the attendees and presenters was extremely broad: neuroscientists, endocrinologists, immunologists, behavioural scientists, psychologists, psychiatrists, gastroenterologists, social scientists, animal behaviourists, biochemists, pharmacologists, nurses.....I was glad to be in attendance (to my knowledge I was the only Chiropractor there) and to hear, firsthand, information that will become commonplace in university lecture halls and textbooks ten years from now.

Psychoneuroimmunology is a relatively young field and has been on the fringes of medicine since its uncertain beginnings in the late 1970's, but its premises have been a conscious part of alternative health care thinking for much longer and this mind-body awareness has existed since the days of ancient Greek and Roman physicians.

Over 100 scholarly papers and research experiments were delivered during the four days of the conference and several themes consistently emerged. First, that inflammation in the body, caused by emotional stress or poor diet, caused illness and diseases such as cardiovascular disease and cancers; Second, that early life illness could stunt mental and emotional development, memory, and cause "autism-like behaviour"; Third, that imbalances in beneficial bacterial life in the body, called the Microbiome, causes a very broad spectrum of problems ranging from poor mental and emotional development to susceptibility to illness and disease, to poor assimilation of food and the lack of resistance that comes with malnutrition. While there are about 1,400 known human pathogens that can harm us, there are over 10,000,000 (yes, ten million) micro-organisms known to us. Not all bacteria are harmful; Some make us stronger. Something to think about when you worry about the kids playing in the mud!

Highlights for me were when individual researchers showed, among many other things: 1) the strong correlation between childhood emotional and sexual abuse and the later development of the troublesome and hard to treat, fibromyalgia; 2) that modern society's high sanitation standards have stripped our bodies of useful commensal bacteria and parasites from the microbiome and have been a major cause of the explosion of cases of allergies, autoimmune diseases and even autism. A solution being considered could be "Fecal microbiota transplantation", where fecal matter in one healthy animal transplanted into an unhealthy animal actually made the unhealthy animal healthy. And reintroduction of a certain category of worms, called helminthes, into clean white lab rats actually improved their cognitive function; 3) that lack of proper sleep is the best predictor of developing depression. Sleep medications did not relieve depression; 4) Repeated Social Defeat (RDS) – stresses that come from being intimidated or feeling afraid or inadequate caused a permanent increase of inflammatory molecules in the body; 5) that children of "un-caring" Macaque monkey parents (about 5% of

the studied population) in turn became un-caring parents themselves (at a rate of 95%!) All of these Macaques displayed high levels of cortisol, which shuts down the immune system; 6) that stress sends white blood cells to the brain – the job of these cells is to protect us from infection, another form of inflammation; and 7) that environmental mold is present in 40% of US buildings and 34% of US homes. Mold infections cause an array of mental and emotional problems like poor memory, cognitive weakness, perceptual problems visually and auditorally, balance problems, poor reaction times and anxiety and depression.

There was other exciting news from the National Institute of Health (NIH). You may remember the Human Genome Project (HGP), where, over a period of years, 25,000 human genes were observed and recorded? Well, all that equipment is still available and is now being used to do the same with all the bacteria that live within us. It's called the Human Microbiome Project (HMP) and it is estimated that this project will discover 100 times as many genes as they found in the Human Genome Project!

What are the implications of all this research? I believe they are manifold. First, by looking for more natural ways to restore the body's ideal conditions for vibrant health, we can reduce the amount of medication taken on for these ailments that sometimes don't work well and to avoid the impossibly complex and dangerous side-effects and cross-interactions that drugs create which can cause more problems which are treated with still more drugs. Second, I see, as many others do, a point of near-convergence in the future between Western medicine and alternative health care. Not that one should absorb or replace the other, but that they can work side-by-side, co-managing patients from a more unified philosophical base. It is already happening out there and gaining acceptance and momentum. The future looks bright from here. And I'm looking forward to PNIRS 2015 in Seattle.

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