Depression Disrupts Your Biological Clocks

Or, do your biological clocks cause depression? A NEW Study

Smart Sugars Lesson #91

by JC Spencer

Scientists, for the first time, have linked depression to dysfunctional body clocks. Depression disrupts and scrambles human biological clocks in your brain and in your cells so they are no longer synchronized. They are no longer harmonious.

Major health challenges can arise when these internal clocks are altered from their normal cycles.

Trillions of clocks are ticking in your cells to control processes that replicate DNA, cells, and bodily functions that determine your future. Your brain and every cell in your body operate constantly on synchronized and random biorhythms.

A recent university study published in the journal Proceedings of the National Academy of Sciences (May 2013) shows that the sleep cycle of those depressed had shifted and was disrupted. Jun Li, professor of human genetics at the University of Michigan and lead author of the study said, "*We think the depressed individuals are more likely to be out-of-sync with the regular wake-sleep timing*."

At inception, each of us receive genes that include the blueprint for constructing proteins that are the building blocks for our personally designed bodies. The genes' activity depend upon the present environment. These clocks may be reset with light and darkness and human activity to help address depression. A consistent good sleep cycle may go a long way in moving out of depression. A healthy gene expression follows a 24-hour cycle and a 28 day lunar cycle. I will discuss more about their relevance in another lesson.

Li and his colleagues looked at the brains of 35 patients with major depression, and 55 mentally healthy people, all of whom had died at various times around the clock. The donated brains contained the markers of gene expression at each time of death. The research team examined the gene expression in six major brain regions: dorsolateral prefrontal cortex, anterior cingulated cortex, amygdala, cerebellum, hippocampus and nucleus accumbens.

In the more healthy brains, a cycle was clearly apparent. Those who died near the same time of day showed similar patterns of gene expression. The patterns in the healthy brains were so clear that the researchers could determine the time of death within a few hours. The evidence left in the gene expression of depressed brains indicated scrambled changes in the bio-clocks showing shifts and disruptions a number of hours off while some rhythms actually flattened. Their gene activity made it impossible to determine the hour of death with this method.

Huda Akil, co-author of the depression study, indicated depressed people have disrupted biological clock[s] that can become part of a vicious cycle. He said, "*Therefore, one can speculate that re-setting the clock, for instance with light or physical activity, is a reasonable, concrete target to aim for in the treatment of severe depression*."

Glycoscience plays the major role in the elaborate communication system for building and operating the human body. Therefore, the Smart Sugars when present, as originally intended, may just be able to repair any breach in the system. Other Smart Sugars may hold the keys for calming the nerves. These sugars are under investigation to understand how they may help with depression. Trehalose and other sugars, especially mannose, warrants further study on how their influence may help the depressed.

Source:
http://www.scientificamerican.com/article.cfm?id=brains-circadian-clock-disrupted-depressed-people&WT.mc_id=SA_CAT_HLTH_20130514

www.GlycoscienceNEWS.com

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http://EzineArticles.com/?expert=JC_Spencer