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Vitamin D Deficiency Associated With Chronic Fatigue in Brain Injured Patients

ScienceDaily (Apr. 28, 2010) — New evidence presented at the European Congress of Endocrinology has shown that vitamin D deficiency is closely associated with the chronic fatigue that often follows post traumatic brain injury (TBI).

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TBI is a major cause of death and disability worldwide. In the European Union the annual incidence of TBI hospitalizations and fatalities is estimated at 235 per 100,000 people. This means that on average a large European state such as the UK, France or Germany, will have around 140,000 new traumatic brain injuries every year (national figures vary). Around two-thirds of post TBI patients go on to suffer chronic fatigue. Now a group of researchers in the Netherlands have linked vitamin D deficiency to chronic fatigue in post-TBI sufferers.

The group, led by Dr Jessica Schnieders from Rijnstate Hospital in Arnhem, The Netherlands, looked at vitamin D and hormone levels in 90

fatigued and non-fatigued subjects. They also systematically evaluated pituitary hormones and factors such as sleep, attention, emotional well-being, quality of life, coping style, and daily activity. They found that 51% of TBI patients were severely fatigued 10 years after the trauma. Vitamin D deficiency was present in 65% of post TBI patients and significantly related with fatigue (P<0.05), with patients who suffered from fatigue more likely to be vitamin D deficient. The group also found a higher incidence of growth hormone and sex hormone deficiency in the fatigued group, but they found no evidence that these deficiencies contributed to the fatigue.

This work opens the possibility that correcting the vitamin D deficiency might help to reduce some of the chronic fatigue in TBI patients. However, as vitamin D levels in the body are affected by diet and time spent in the sunshine, further studies are now needed to confirm whether low vitamin D levels are a cause of the fatigue or whether they are a consequence of altered lifestyle led due to suffering from fatigue.

Lead researcher, Dr Jessica Schnieders said: "In the Netherlands we have 30,000 people every year who suffer a traumatic brain injury and many of these go on to suffer from chronic fatigue. This is early work, so we need to confirm that vitamin D is the cause of this fatigue, and if so to see if taking vitamin D, perhaps coupled with improved sleep patterns, can alleviate some of the symptoms.

"We looked at patients around 10 years after their trauma. Fatigued post traumatic brain injury patients are less active, and generally experience a reduced quality of life. They have difficulties in maintaining relationships and keeping jobs, and are less independent than people who have not had to cope with such trauma."

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The above story is reprinted (with editorial adaptations by ScienceDaily staff) from materials provided by [European Society of Endocrinology](#), via [AlphaGalileo](#).

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