Differences on brain connectivity in adulthood are present in subjects with iron deficiency anemia in infancy

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© 2017 Algarin, Karunakaran, Reyes, Morales, Lozoff, Peirano and Biswal. Iron deficiency continues to be the most prevalent micronutrient deficit worldwide. Since iron is involved in several processes including myelination, dopamine neurotransmission and neuronal metabolism, the presence of iron deficiency anemia (IDA) in infancy relates to long-lasting neurofunctional effects. There is scarce data regarding whether these effects would extend to former iron deficient anemic human adults.

Resting state functional magnetic resonance imaging (fMRI) is a novel technique to explore patterns of functional connectivity. Default Mode Network (DMN), one of the resting state networks, is deeply involved in memory, social cognition and self-referential processes. The four core regions consistently identified in the DMN are the medial prefrontal cortex, posterior cingulate/retrosplenial cortex and left and right inferior parietal cortex. Therefore to investigate the DMN in former iron deficient an