Expression of brain-derived neurotrophic factor is not modulated by chronic mild stress in the rat hippocampus and amygdala

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Abstract:
Accumulating evidence supports a role for brain-derived neurotrophic factor (BDNF) in depression. However, most of these studies have been performed in animal models that have a low face validity with regard to the human disease. Here, we examined the regulation of BDNF expression in the hippocampus and amygdala of rats subjected to the chronic mild stress (CMS) model of depression, a paradigm that induces anhedonia, a core symptom of depression. We found that exposure of rats to the CMS paradigm did not modulate BDNF mRNA expression in the hippocampus and amygdala. In addition, chronic administration of imipramine, which reversed CMS-induced anhedonia, did not alter BDNF mRNA expression in these limbic structures.

Key words: chronic mild stress, BDNF, depression, anhedonia, imipramine