## Efficacy of Nepeta Menthoides Boiss and Buhse Freeze-Dried Aqueous Extract on Anxiety of Patients with Depression: A Double-Blind Randomized Controlled Clinical Trial

Ali Firoozabadi<sup>1</sup>, Sepideh Kolouri<sup>2,3</sup>, Mohammad M. Zarshenas<sup>4,5</sup>, Alireza Salehi<sup>2,3</sup>, Seyed Hamdollah Mosavat<sup>2</sup>, Seyed Ali Dastgheib<sup>6</sup>

<sup>1</sup>Research Center for Psychiatry and Behavioural Sciences, Department of Psychiatry, School of Medicine, Hafiz Hospital, Shiraz, University of Medical Sciences, Shiraz, Iran;

<sup>2</sup>Research Center for Traditional Medicine and History of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran;

<sup>3</sup>Department of Traditional Persian Medicine, Shiraz University of Medical

Sciences, Shiraz, Iran; <sup>4</sup>Medicinal Plants Processing Research Center, Shiraz University of Medical Sciences, Shiraz, Iran;

<sup>5</sup>Department of Phytopharmaceuticals (Traditional Pharmacy), School of Pharmacy, Shiraz University of Medical Sciences, Shiraz, Iran;

<sup>6</sup>Substance Abuse Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

## Abstract

**Background:** The efficacy and safety of Nepeta menthoides freeze-dried aqueous extract were assessed on the anxiety of patients suffering from depression.

**Methods:** Patients received either N. menthoides formulation (400 mg/BID) or Sertraline (50 mg/BID) for 4 weeks. The Beck Anxiety Inventory (BAI) scales were used to assess the anxiety in two-week intervals (2<sup>nd</sup>, 4<sup>th</sup>, and 6<sup>th</sup> weeks). Folin-Ciocalteu and Dowd methods were used to determine the formulation of total phenol and flavonoid contents.

**Results:** Compared with Sertraline, N. menthoides showed a higher reduction in BAI scores in the  $2^{nd}$  (16.52±8.07 vs. 21.38±10.98, P<0.05) and 4<sup>th</sup> week (11.55±6.74 vs. 20.47±11.53, P<0.05) along with a reduction in the recurrence rate and side effects. Total phenolic and flavonoid contents revealed in the presence of 127.09±0.43 mg GAE/g and 16.93±0.09 mg Q/g of extract.

**Conclusion:** N. menthoides could be effective in the control and introducing a delay in recurrence of anxiety in patients with depression.

**Keywords** • Anxiety • Depression • Herbal medicine • Medicine • Traditional