Association of brain-derived neurotrophic factor valine to methionine polymorphism with sexual dysfunction following selective serotonin reuptake inhibitor treatment in female patients with major depressive disorder

Nur Sia Nazari1, BSc, Zahurul Mahamad1 PhD, Gavin P. Heyncke2 PhD, Shamail Mahbod Zain1 PhD, Ruzaina Masiyar1 MBBS, Hetta Sidi1 MMed, Lu Ann Cheng1 MBBS, Anne Yue Hway1 MBBS, Aida Syanzil1 PhD, MBB2 & Nor Zuraida Zahari1 MBBS1

1 Pharmacodynamic Laboratory, Department of Pharmacology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia
2 Department of Psychiatry, Institute for Mental Health, National Institute of Health, Kuala Lumpur, Malaysia
3 Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

Keywords
brain-derived neurotrophic factor (BDNF), sexual dysfunction, selective serotonin reuptake inhibitor (SSRI), polymorphism

Introduction

The occurrence of female sexual dysfunction (PSD) in patients with major depressive disorder (MDD) receiving selective serotonin reuptake inhibitors (SSRIs) treatment gives negative impacts on patients’ quality of life and causes treatment discontinuation. We aimed to investigate whether genetic polymorphisms of identified candidate gene is associated with PSD in our study population.

Methods

This is a cross-sectional study. A total of 49 female patients with MDD who met the criteria of the study were recruited and were specifically screened on the sexual function by validated psychometric. Patients DNA was genotyped for BDNF Val66Met polymorphism using real-time polymerase chain reaction.

Results

The prevalence of PSD in this study is 51.6%. In the PSD group, patients with problematic marriage were significantly more frequent compared with patients who did not have problematic marriage (P = 0.009). Significant association was detected in the functional domain with BDNF Val66Met polymorphism (P = 0.009) using additive genetic model, with even stronger association when using the recessive model (P = 0.043).

Discussion

This study suggested that there was no significant association between BDNF Val66Met with PSD. However, this polymorphism is significantly associated with hsinkation disorder in patients treated with SSRIs.

Abstract

Selective serotonin reuptake inhibitors (SSRIs) are among the most widely used antidepressants (Kalid, 2004). SSRIs are suggested to act by inhibiting the reuptake of serotonin from synaptic and less adverse reactions compared with other types of antidepressants (Kalid, 2004). They are not, however, completely devoid of adverse reactions (Beaurt and Sorensen, 1998). Sexual dysfunction (SD) is one of the most clinically significant adverse effects in patients treated with SSRIs (Cayanan, 2001). Although

1221 PM