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The study of association between serum brain derived neurotrophic factor protein and dyslipidemia on memory performance in thai Alzheimer disease patients

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This study aimed to investigate the association between Serum Brain Derived Neurotrophic Factor (BDNF) Protein and dyslipidemia on memory performance in Thai Alzheimer Disease (AD) patients. It is well known that BDNF protein has important function in neuronal survival, synaptic plasticity, and neurogenesis in rat hippocampus including learning and memory. The lower BDNF protein level results in a decrease in synaptic transmission leading to neuronal damage in hippocampus and neurodegenerative disease in ageing. Moreover, BDNF protein also promotes neurite outgrowth. After this research project has been approved and certified by human ethic committe Srinakharinwirote University, we recruited volunteer male and female subjects with aged 45 or more. Before all subjects began to participate in this research, they had to perform Thai Mini Mental State Examination (TMMSE). Then thirty subjects were enrolled as control group whereas fifteen AD patients were participated as experimental group. Then they were withdrawn 10 milliltres of venous blood samples from left antecubital vein. Blood samples were left at room temperature (25oC) until they become clotted. They were centrifuged to seperate supernatant for BDNF protein assay by Enzyme Linked Immunosorbent Assay (ELISA) (Milliplex assay kit, Merck Millipore, Germany). Serum BDNF protein in AD patients was lower and significant different from that in control group at $p<0.05$. However, total cholesterol , triglyceride, high density lipoprotein, and low density lipoprotein in AD had no significant different compared with control group. Furthermore, TMMSE score in AD has significant lower than control group at $p<0.05$. We can be concluded that the lower level of serum BDNF protein in AD patients may cause the less scores of TMMSE leading to reduction in memory performance in Thai AD patients.

Biography

Panaree Busarakumtragul has completed her PhD at the age of 44 years from Mahidol University and she was trained during studying PhD at Seoul National University, Republic of Korea. She has postdoctoral training from Medical Innsbruck University. She is Associate Dean of Administrative and Academic (Preclinic), Faculty of Medicine, Srinakharinwirot University. She has been serving as an editorial board member of journal of medicine and health science.

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