The First International Talent Management Congress

Shefa Neuroscience Research Center, Tehran, Iran, 15-17 December, 2015

The Neuroscience Journal of Shefaye Khatam

Volume 3, No. 3, Suppl. 2

Poster Presentation

The Effects of Omega-3 and 6 Fatty Acids on Hippocampus and Learning

Robabeh Jafari[1], Beheshteh Azhdari[2*]

[1]Shefa Neuroscience Research Center, Khatam Alanbia Hospital, Tehran, Iran

[2]Department of Marine Chemistry, Faculty of Basic Sciences, University of Chabahar Maritime and Marine Sciences, Chabahar, Iran

Published: ***15 December, 2015***

Abstract

One of the most nervous system evolution are memory and learning in humans. Learning is a skill that enhances synaptic activity in the hippocampus of prefrontal cortex. In fact, basic passive learning is communication between the conditioned and Unconditioned stimulation . Passive learning involves three steps: habit, education and remember. According to the results of investigations, the hippocampus is a part of prefrontal cortex that has very important role in spatial learning and memory stabilization. During the learning, blood flow and oxygen consumption increases and it is influenced by hormones, drugs and various substances strongly. The Short-term and activator of excitatory pathway in Some areas of limbic system in cortex lead to severe increasing in synaptic strength. Two families of omega-3 and 6 fatty acids are important for health which must be received through diet, because they are not synthesized by body. Therefore, they are known as essential fatty acids. Unsaturated fatty acids are the main components of cell membranes in the body and present at high concentrations in the central nervous system, especially brain. They absorbed in brain actively and Leads to improved memory and learning. Unsaturated fatty acids directly intervene in the brain exercise via nerve cell membrane structure and change the activity of membrane. The long-chain fatty acids are important in brain especially for development of optimal nerve cells and also for releasing neurotransmitter and cell signaling. Conclusion: This review discussed about the effect of fatty acids on the hippocampus and learning and its importance role. According to our result, omega-3 and six fatty acids are important in the development of the central nervous system, especially hippocampus and they have a great influence on learning. Omega three and omega six fatty acid chains are very important for nerve cells' development and neurotransmitter release and thus have a significant effect on learning.

Keywords: Hippocampus, Learning, Memory, Omega 3, Fatty Acid.

Corresponding Author: Beheshteh Azhdari

E-mail: *beheshteh71@yahoo.com*

[Downloaded from shefayekhatam.ir on 2026-10-08]