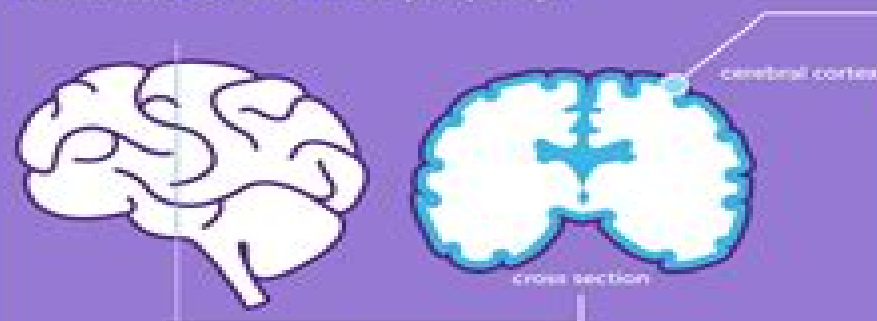
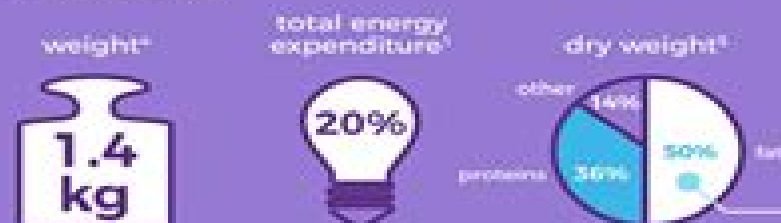


Role of nutrients in brain structure and function

Like any other organ, the brain needs specific nutrients to function properly.^{1,2}



Adult human brain:



Neurons form a communication network by connecting with each other through junctions called synapses.¹

Average number of neurons in the brain⁶

86,000,000,000

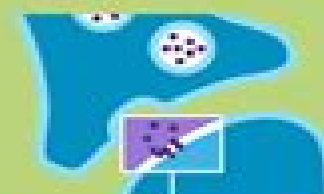


Nutrients are involved in many different synaptic processes, such as neurotransmitter and phospholipid synthesis.¹

Neurotransmitters are the key molecules in the communication at synapses, and their synthesis depends on ingested nutrients.

Estimation of total number of synapses in the cerebral cortex⁷

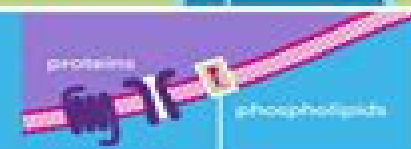
60-240 trillion



Phospholipids are major building blocks of synaptic membranes.

Total membrane surface area in the brain⁸

4x



Phospholipids are made from ingested nutrients, e.g. DHA, uridine, choline, folate.^{1,9}

phospholipid fraction¹⁰

50%



The brain needs lifelong nourishment to maintain its structure and function and to help ensure optimal cognitive performance.¹

Choline
precursor for the neurotransmitter acetylcholine.

Vitamin B6
cofactor in the synthesis of the neurotransmitters serotonin, dopamine, and noradrenaline.

Vitamin C
cofactor for synthesis of the neurotransmitter noradrenaline.

Folate
essential in the one-carbon metabolism, which is involved in the synthesis of neurotransmitters and phospholipids.

Tryptophan
precursor for the neurotransmitter serotonin.

DHA
docosahexaenoic acid, an omega-3 polyunsaturated fatty acid present in neuronal membranes and which influences membrane-related processes such as neurotransmission.

Vitamin E
antioxidant that protects cell components, like the neuronal membranes, from oxidation by free radicals.

Tyrosine
precursor for the neurotransmitters dopamine and noradrenaline.

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Nutrients And Brain Function

Liyong Dong



Nutrients And Brain Function:

Whispering the Strategies of Language: An Psychological Quest through **Nutrients And Brain Function**

In a digitally-driven earth where displays reign great and immediate transmission drowns out the subtleties of language, the profound secrets and mental nuances concealed within phrases frequently get unheard. Yet, located within the pages of **Nutrients And Brain Function** a fascinating fictional prize blinking with raw thoughts, lies a fantastic journey waiting to be undertaken. Penned by a skilled wordsmith, this marvelous opus invites visitors on an introspective journey, lightly unraveling the veiled truths and profound influence resonating within the material of every word. Within the psychological depths with this poignant review, we will embark upon a sincere exploration of the book's primary subjects, dissect their captivating writing style, and fail to the strong resonance it evokes serious within the recesses of readers' hearts.

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