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SPİRİTUAL ASPECT OF NUTRİTİON; RELATİONSHİP BETWEEN FEELİNG GOOD, BEHAVİOR WİTH FOOD AND NUTRİTİON

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ABSTRACT

Nutrition is undoubtedly the most basic and priority action that needs to be taken in order for life to continue healthy. The molecules taken with the nutrients that the body needs provide the body's metabolic energy needs. However, it also affects mental and cognitive functions. There are many studies showing that the importance of neurotransmitters associated with consumed foods and the lack or excess of happiness hormones such as serothonin, dopamine, noradrenaline, melatonin are accepted on the emotional state and behavior of the person. There are studies showing that the insufficiency of these molecules taken with various nutrients leads to weakened cognitive functions and depressive mood, and is effective in exhibiting violent and angry behaviors. Since nutritional activity plays an important role in the protection of body and mental health, the importance of nutrition has become very evident and it has been accepted that it is a factor in the person's behavior. It is better understood with the studies carried out today. In this study, the information about the relationship of happiness hormones in the context of subjective well being and positive behaviors was evaluated as a result of providing the molecules with the nutritional phenomenon.

KEYWORDS: Nutrition, Behavior, Neurotransmitter.

INTRODACTION

In order for people to survive, protect their health and improve their quality of life, they need to take the food they need in the appropriate time and amount. So nutrition; growth, development, healthy living, protection from diseases, physical and mental activities are

imperative for human beings. The purpose of nutrition is not only to be satiated, to suppress hunger or to eat the food we want as much as we want. Basically, the person must be fed with various foods in order to get all the nutrients he needs according to age, gender and physiological conditions and to provide sufficient energy.[1]

The importance of balanced nutrition and taking it with natural foods is inevitable. As a result of malnutrition and starvation, damage to the body creates thousands of different or interrelated diseases. Although each disease has a specific cause, the protection of health without a patient, that is, protective measures, is removed from the existing molecules in the food process during the treatment process after the formation of the disease.[2]

The continuity of reactions and health in cells is necessary for the brain to maintain its functions, as in all organs. The absorption of molecules into the body is provided by food. The importance of this issue is inevitable. Many reactions take place in the body. As a result, with these reactions, the whole body is managed by the functions of the brain.

The center of behavior is the brain. Daily eating habits determine the hunger and satiety mechanism. This event, called the energy mechanism, is met by the signaling of neuropeptides in the brain center. The appetite mechanism is important in balancing energy. The central governing this mechanism is the hypothalamus. The center of the toughness mechanism is the ventromedial hypothalamus. Digestion is activated with the signals coming from here. Hormones secreted by the signals transmitted to the intestine send saturation signals to the brain. It is the hormones of insulin, leptin, and ghrelin that transmit these signals.[3,4] This process affects not only the nutritional function but also the appetite mechanisms of food pleasure, taste, taste and social environment where hedonic results are seen. Then various habits are formed.[5]

Mental and physical development, as well as how nervous system activities are unbalanced or inadequate, have been examined in many studies on how effective the behavior is in psychology and in behavior.[6] While many systems are affected as a result of inadequate and unbalanced nutrition, the immune and nervous system is known to be the leading ones, and as a result, an irregularity is observed in these systems.[7] Mood management, depression, effect on cognitive functions, anxiety, sleep disturbance, appetite imbalance, sexual functions are also among the reasons that affect the functions of the brain. It is stated that regular and

adequate nutrition positively affects the functions and mood in the brain, which is the center of these psychological developments. Therefore, it is known to be reflected in behavior.[6]

The body is full of nutrients. These molecules are either produced by body reactions or necessarily taken from the outside in order to maintain health, to prevent the formation of free radicals that cause disease, to destroy the disease or to sweep away existing radicals.

Serotonin and melatonin, which are especially in the composition of many fruits and vegetables, and various foods that are essential for daily intake, have a very important importance with the antioxidant effect in the development of the central nervous system, the person's mood, sleep quality, regular function of the circadian rhythm, and the immune system.[8,9,10]

Tryptophan, taken into the body by nutrition, affects serotonin biosynthesis in the brain. The molecules removed turn into serotonin in the peripheral nervous system cells.[11] This molecule is a must in protein synthesis and in the synthesis of some neurotransmitter components. It cannot be synthesized in the human body, so it must be taken from the outside.[12]

In the purchase of tryptophan, the correct ratio should be maintained between serotonin and melatonin. In other words, many essential molecules such as tryptophan are taken with rich foods and they are responsible for increasing the amount of neurotransmitters such as serotonin, melatonin, dopamine, gaba, glutamate. Lack of these molecules has a negative effect on behavior.[13]

Melatonin is a hormone that strengthens the nervous system, which is thought to be an antioxidant and supports the immune system.[14,15,16,17] Melatonin is found in the composition of many foods such as oranges, bananas, cherries, strawberries, grapes, tomatoes, nuts, rice, barley, olive oil, and walnuts .[18,19] Tryptophan in seeds and raw coffee beans; Proline contains glutamic acid, alanine, phenylalanine, glutamic acid and asparagine.[12,13] Zinc has an important role in balancing melatonin production and regulating dopamine.[20,21]

The known effects of neurotransmitters vary according to the low and high levels of minerals in the body. Of these minerals, iron plays an important role in the metabolism of noradrenaline and serotonin as the enzyme's cofactor.[22]

Briefly, it is very important to emphasize the importance of the molecules we mentioned above and to observe their effects on behavior. The cornerstones of being healthy and maintaining health are nutrition and the absorption of nutritional elements. It is known that the behaviors and psychological disorders of individuals are supported by many studies in which the neurotransmitter develops as a result of molecular deficiencies in the food and the negativities that occur as a result of the disruption of hormone metabolism.

Anger, Aggression Related Molecules

Tryptophan is an essential amino acid serotonin precursor. As a result of the measurements of serotonin synthesized in the right anterior cingulate in the brain using positron emission tomography, a positive relationship was observed with serotonin synthesis, while unhappy individuals had a negative relationship with serotonin deficiency.[23] Serotonin deficiency is one of the causes of emotional and behavioral disorders. In addition, it is effective in anxiety, anxiety, distorted thoughts, addiction, depression, obsessive-compulsive disorder and behavioral disorders such as aggression, and it is the main molecule of antidepressants used in these ailments.[24, 25]

According to the results of a study between hate sense and serotonin, low serotonin level has been reported to increase hate.[26]

The amount of serotonin in the body decreases due to diet with a small amount of tryptophan and aggressive behavior is thought to increase with this decrease. Impulsively observed violence and suicide are associated with low levels of serotonin in individuals' central nervous system.[27] In another study on psychiatric patients and criminals, it was reported that violence was directly proportional with low cholesterol level detection.[28]

In a study conducted without considering the mental problems of the individuals exhibiting aggressive behavior and considering the level of crime, it was reported that low serotonin level was quite obvious and had an effect.[29] Serotonin level was reported to increase hate.[26]

In people with violent antisocial personality disorder, serotonin precursor tryptophan levels in plasma decreased, and the basic metabolite product increased.[30]

Essential fatty acids are very important in the treatment and control of nervous disorder.[31] It has been reported that the absence of these molecules on the daily basis is a risk factor that increases the aggressiveness in behaviors and is long term.[32]

Docosahexaenoic acid is an omega-3 fatty acid, and supplementation of this fatty acid was reported to decrease in aggressive behavior in the following days. It has been suggested that dietary-induced DHA deficiency affects dopamine and causes abnormalities. Abnormalities in brain dopamine neurotransmission were observed in the behavior of rats and deficiency of dietary DHA.[33,34,35] In another study, its effect on dopaminergic neurotransmission in basal ganglia was determined.[36,37,38]

Vitamin B, C, magnesium, zinc minerals are needed in the formation of nervous system neurotransmitters and communication between synapses. dispatches.[38,39,40] As a result of this process taking longer, tremor, anxiety and insomnia increased. Therefore, magnesium deficiency increases its sensitivity to stress and causes aggressive behaviors as a result of increasing catecholamine secretion.[41]

He observed that the low level of lithium was effective in people with self-harming behaviors who were aggressive and aggressive. It has been applied to many patients in the hospital who have abnormal aggressive behavior and to control this condition, and it has been reported that positive results have been obtained.[42]

Considering the studies investigating the effect of vitamins on behaviors, it was reported that individuals with antisocial or violent behavior had a fat soluble vitamin D deficiency. In a study, the importance of water soluble vitamins was emphasized in order to realize neurotransmitter synthesis mechanisms.[43]

When the deficiency of B group vitamins in the adolescent group is examined on the mental health and behavior of the person; It was found that vitamins of group B and folic acid are very low and their effect negatively affects behavior and increases outward orientation behavior disorders. The inadequacy or inadequacy of these vitamins to be taken with foods, especially the low amount of folic acid and vitamin B6, have been shown to increase introversion and behavioral disorders.[44]

In a study of people with social phobia, it was observed that zinc deficiency negatively affects neuronal plasticity, revealing anger control and aggressive behavior.[45]

Mood disorders and Related Molecules

The first large scale study of tryptophan in depression patients has also been reported to be important.[46] It is known for its synthesis of neurotransmitters that play a role in the synthesis

of neurotransmitters such as melatonin, niacin, nicotinic acid coenzyme, nicotine adenine dinucleotide and nicotine adenine dinucleotide phosphate.[47] While serotonin deficiency is effective in anxiety, anxiety, distorted thoughts, emotional and cognitive behavioral disorders such as addiction, depression, optional compulsive disorders, and aggression, it is the main molecule of antidepressants used in the treatment of these disorders.[24]

Serotonin can't cross the blood barrier in the brain. Transport to the brain, that is, to pass this barrier, occurs in the central nervous system and the enteric system as a result of the two-stage, gradually progressive reaction stages of the tryptophan.[48,49]These hormones and receptors are also important in eating disorders, mood disorders, and maintaining the balance of the body.[50,51]

In a study that was thought to be a link between diet and tryptophan intake, suicidal rates were considered in the low population of tryptophan in the male and female population, and the increase in nutrition and tryptophan intake created a significant negative relationship in suicide rates.[52]

Different amounts of tryptophan were given to various depression groups between 50-300 mg orally daily. Improvement was observed in 74 (69%) out of 109 patients who received tryptophan. No side effects were reported in patients.[46]

In another study of depression patients, polyunsaturated fatty acid (docosahexaenoic acid, eicosapentaenoic acid, α-lioleic acid and linolenic acid) and monounsaturated fatty acid concentrations were observed in very low amounts. As a result, fish consumption has been associated with depression resistance.[53,54]

Vitamin D deficiency draws considerable attention in major depressive disorder, seasonal affective disorder, and mood disorders, as in many psychological disorders.[43] In another study with women, as a result of the vitamin D supported diet given with food, depressive symptoms decreased.[55]

In the study conducted on the effect of increasing aggressive behaviors, magnesium deficiency was observed in these individuals and it was determined that sensitivity to stress and catecholamine secretion increased. Even if the magnesium deficiency is mild, as a result of eating foods with insufficient magnesium minerals, it has been determined that there is an

increase in sensitivity to noise, rapid irritation, depression, restlessness, muscular rest, anxiety and insomnia.[41]

Molecules Associated with Attention Deficit and Hyperactivity Disorder

In a study conducted in monkeys, it was observed that attention and memory were affected in the hippocampus of the brain due to the low level of zinc and in the study conducted in rats, zinc deficiency caused hyperactivity syndrome.[56,57]

It was determined that there was an increase in dopamine metabolism and a decrease in noradrenaline metabolism in ADHD.[58] Likewise, while high copper content is neurotoxic, deficiency was emphasized to be effective at dopamine and noradrenaline levels.[59]

The known effects of neurotransmitters vary according to the low and high levels of minerals in the body. It is the cofactor of the enzyme in metabolism of iron, noradrenaline and serotonin. It was observed that there was an iron deficiency in individuals with attention deficit and disorder, aggressive, behavioral disorder and children committing crime, and the cognitive and behavioral improvement was observed as a result of iron supplementation given to these children.[60] Hyperactivity was detected in rats due to zinc deficiency. [56,57]

It has been found that the use of essential fatty acids in the diet of people with attention deficit and hyperactivity disorder, and who are prone to violence.[31]

Molecules Associated with Sleep

Tryptophan, which is highly effective in insomnia and psychological disorders, especially in major depression, is the active ingredient of the hormones serotonin and melatonin. Tryptophan is the active ingredient of the hormones serotonin and melatonin. Synthesis of serotonin, which is synthesized in the pineal gland, increases at night, but decreases with daylight with the effect of light. While melatonin increases the desire to sleep, sleep is synthesized at a high level at certain times in the night in a high level dark environment.[61]

Pellegra disease was also observed to be very effective in major depression, such as forgetfulness caused by niacin deficiency. It is known that tryptophan deficiency is effective in Hartnup disease. Tryptophan has an important role in this disease and in the treatment of such mental disorders.[62]

In later years, the secretion of melatonin increases. Sleep problems occur in elderly people due to melatonin deficiency. In this context, a study on 55 year olds supplemented melatonin. These patients later increased their quality sleep.[63]

It is a known fact why the problem of intense insomnia in schizophrenic patients. A group of patients with schizophrenia were given melatonin for two weeks at night. The other group was compared with placebo. A significant increase in sleep quality and sleep time was observed in the patient group receiving melatonin compared to the placebo group. Depending on this situation in schizophrenic patients, it is thought to have an important role in the regulation of the circadian rhythm.[61]

Alzheimer's and Associated Molecules

In neurodegenerative diseases such as Alzheimer's and Parkinson, serotonin and melatonin are known to be useful in controlling these diseases.[64,65,24] Serotonin is an important molecule in the memory and functional development of alzheimer's disease treatment.[24,25] Leucine, isoleucine, valine, phenylalanine, tyrosine, and methionine are effective in the neural system of the brain, in synaptic events between neurons, in the central nervous system, in all functions of the brain (in learning, memory, memory, emotional functions) and neutral amino acid.[66]

The fatty acids necessary for the brain are taken with the linoleic acid and alpha linolenic diet and are the precursors of arachidonic acid. In the brain aging process, especially phosphatidyl ethanolamines are also reduced. It is observed that arachidonic acid decreases due to this decrease.[67]

Zinc is used today in the treatment of dementia, hyperactivity, and behavioral problems. These studies especially draw attention to the effect that zinc is low or when it is high.[38,39]

Learning and Related Molecules

It is impossible for our body and brain to be healthy without minerals. Dopamine is an important neurotransmitter in the brain. In animal studies, a decrease in dopamine due to iron deficiency was found to cause negative effects on learning and behavioral disorders.[68] Iron in the body is a molecule that plays an important role in the communication of neurons, the functional development of memory and memory, which is effective in the transfer of information from short-term memory to long term memory.[24]

The function of the brain in the hippocampus region of the limbic system is memory and learning. Zinc is located in the limbic system of the brain, in the hippocampus region of the brain. It is known that it affects the neurotransmitter content and receptor activity in the brain[38,39] It has been determined that it is affected by the deficiency in the transmission of nerve cells with zinc deficiency.[69]

Seratonin is a molecule that plays an important role in the functional development of memory and memory between neurons, which is effective in transferring information from short term memory to long-term memory.[24]

Consequently, nutrition is a need and nutrients are made by taking the necessary molecules into the living body in this way. The energy and mechanisms have to be sufficient and at the same time balanced by taking the nutrients needed. Functional functions do not take place when malnutrition and therefore inadequate energy intake cannot be met by nutrient stores. One of the negativities that may occur is starvation, traces are permanent and the results are trauma. This event affects many systems in the organism and is observed as mental consequences and negative behaviors.

Therefore, the importance of essential molecules is increasing in daily food intake.Nutrient deficiencies create irreversible irregularities in the system, especially in the immune and nervous systems. The studies on the effects of amino acid, fatty acids, vitamin and mineral deficiencies on behaviors, which have a very important role in the synthesis and function of many molecules and trauma caused by hunger, should be considered to be more intens

Our aim here is to emphasize the importance of molecules that need to be taken, that is, some issues related to foods that contain these molecules. It is to draw attention to its connection to the effect on our behavior. This is to emphasize the importance of nutrition in the context of attention.

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