

# IMPACT OF FOOD AND BOTANICALS TO ENHANCE NEUROTRANSMITTERS LEVEL; ONE STEP AHEAD TOWARDS QUALITY LIFE

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## Abstract

There are two pillars which are considered basic factor of Happiness; endogenic factor and exogenic factor. Happiness can be achieved by biologically, economically, behavioral, physical exercise, spending time for hobby etc. Happiness and food have very strong connection, Food gives pleasure while cooking, serving and eating. Food can change chemistry of brain also. As we know serotonin is the basic hormone of happiness, because adjust mood, prevent depression, irritation and make you happy. When one can consume milk and corn, since they contain tryptophan, an amino acid that our body converts to serotonin. Dopamine is a happiness hormone that is secreted when you achieve a goal. Protein rich diet may increase dopamine level. This paper deal with how one can achieve happiness through certain changes in daily diet. That may leads to healthy and happy and quality life forever.

**Key words:** Food; Happiness; Hormones; Dopamine; Serotonin; Quality life

## Introduction:

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svasthasya svāsthya rakṣaṇam, āturyasya vikāra praśamanam□ (Caraka Saṃhita Sūtra 30□26)

Ayurveda Shastra aims at keeping a healthy person healthy and managing or curing diseases (mind, body or both) that manifest in a person.

Life is very difficult to understand, there are many phases in life that are not in our control. Apart from these uncontrolled situations those things which can be manage by us is our food. Food not only destroys hunger but it also satisfies us, provides energy to do work, strength, boost immunity and act as a fuel. Food also gives us the jingle of living life. Most of the time it gives us pleasure, happiness, which we find out side. By manipulating our diet routine we may achieve quality life. It is belief among biologist that certain types of food have power to control swing mood or are good mood modulator. Present study deals with how we can control our mood swing with the help of diet- therapy. There is a category of chemical known as neurotransmitter that transmits an impulse from one nerve cell to another, produced by nerve cell that act as a neurologic messenger among the cells. Presence of neurotransmitter Precursors in food may affect mood[1]. Although Food has very strong relationship with happiness and mood, dietician pay special attention to food for mental and physical wellness, but literature and research is scarce. Neurotransmitters is a collective term for acetylcholine (ACh), glutamate; modified amino acid and aminobutyric acid; GABA, biogenic amines dopamine, serotonin and histamine. There is numbers of neurotransmitters found in nature in different plants and animal food source[2].

This paper deals with the chemicals present in human body environment that enhance due to some special conditions like proud, love, affection, reward, achievement, positive emotions etc. with the help of incorporation of particular food in our diet one can manage his or him swing mood. There are top nine chemicals or neurotransmitters which may handle our emotions or mood like:

- Acetylcholine; It is responsible for alertness, appetite and for stimuli to growth hormone.
- Dopamine; dopamine for pleasure, excited, govern motor system, attentiveness.
- Endocannabinoids; Also known as bliss molecule, responsible for perception of any individual and awareness.
- Enkephalins; reduce sadness, hopelessness, regulate hunger.
- Endorphins; Mood uplifting, joyfulness, natural analgesic. Secreted more, you are happier more.
- GABA (Gamma Amino Butyric Acid); Found all over the central nervous system, it is natural analgesic, anti stress, anti worries, anti panic; maintains calmness, maintain alertness.
- Melatonin; Rest and recover and anti aging agent, regulate biological clock.
- Norepinephrin; For Excitation, feel good, alertness, Energetic, motivational, appetite balancer.
- Oxytocin; stimulated by dopamine presence, releases at the time of affection, embraced, love, feeling of emotion.

Many more neurotransmitters are there which make us happy.

Present study deals to explore food that contains precursor of neurotransmitter. Cucurbita pepo; pumpkin, solanum melongena; brinjal, spinacia oleracea; spinach extract contains substantial quantity of Ach[3]. High amount of Ach present in pisum sativum seeds; guava, phaseolus radiates; moong beans probably play a vital role in seed germination[4] Raphanus sativus; radish [5], Urtica dioica; Bichchhu shows highest value of Ach[6].

Glutamate; it is non essential amino acid and key component for constituting excitation in the human brain. Glutamin acid is abundant in the food having high protein value like seafood, meat, tomato, sauce and soups [7], Flavor enhancer like salts of glutamate, eg. Potassium, sodium, calcium and magnesium [8]. On assimilation of glutamate salts dissociates and discharges free glutamate. There are many foods that release free glutamate after ingestion; tomato sauce, noodles, potato chips and instant ready to eat food. [9]. There is main inhibitory neurotransmitter; that keeps you calm as well as prevents brain to get over excited or over active, it is important for deep sleep, get rid of negative mood, stress and also act as muscle relaxant. People suffered from insomnia having approximate 30% lower level of GABA than normal one. In nature GABA is abundant in plant source. It is synthesized from glutamate in the presence of decarboxylase enzyme. Commonly sprouted lupin bean [10], vigna angularis; like lobia bean, glycin max; soya bean [11], peas and common bean [12], wheat oats, oats, barley [13, 14, 15]. GABA is a renowned pain killer too. There is list of food that significantly shows accumulation of GABA, all type of rice [16], buck wheat also known as aging fighter food [17], tomato[18]. Dopamine plays crucial role in reward, motivational and to maintain smooth body movements. Dopamine found in bananas and avocado, certain amount in oranges, spinach, pea [19], velvet bean [20].

Serotonine is a very important neurotransmitter. It is supposed to help to regulate mood, appetite, sleep, sexual desire, memory and digestion. Serotonin might be a relation between depression and serotonin. a 5-HT pathway maintains eating, gut activity, behavior, eating and sleep also. Vegetables and fruits and some seeds are main source of 5-HT, capsicum pepper [21], hazel nut, cherry tomato, plum, papaya, Chinese cabbage, spinach, green onion [22,23, 24, 25]. 5-HT; 5-hydroxy-L-tryptophan is immediate precursor for the synthesis of serotonin.

Histamine is also very important neurotransmitter present in hypothalamic region. Histidine is nitrogenous, heterocyclic compound is precursor of histamine it is abundant in nature. Histamine is responsible for reactivity, stimulation and attention. Intake of fish and dry meat food increases histamine level [26]. On the other hand dairy products recognized with sufficient amount of histamine; yogurt, cheese, all type of milk [27]. Histamine is also present in soya product, tofu, ketchup [28, 29]

### Conclusion:

Food science is very vast; it cannot summarize in few word. With help of above mention literature is it possible to trace some food by which one can improve his/ her mood. What type of food you are taking in daily life, it does matter. So, from the present paper it is clear that by making small changes in our daily

routine it is easy to achieve happiness. Although happiness is an intrinsic property of human being, it is not an external force. So, “eat a healthy food for a wealthy mood”.

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