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THE HAPPINESS DOSE: DOPAMINE, OXYTOCIN, SERONTONIN, ENDORPHINS AND ENDOCANNABINOIDS

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Wali Mohommad Momin Assistant Professor of Pharmacology, 18/A, Street 10, Sector -1, Bhilai – 490001, Chhattisgarh.

Vijay Thawani* Professor & Head, Department of Pharmacology, People's College of Medical Sciences & Research Centre, Bhanpur, Bhopal – 462037. *Corresponding Author

ABSTRACT

All humans cherish, eagerly look up to enjoy and long for happiness. There is nothing more rewarding, satisfying and motivating than the pleasurable feeling of happiness. Everyone looks up to happiness and identifies with the instances that generate and sustain it. They identify the reasons for happiness occurrence, bring the pleasure of happiness back, recall and recollect the moments and memories, so that happiness can be retrieved, revived and survived. Humans are perfectly designed to be happy and hence the brain has big natural resources to provide the blissful happiness. If we understood how our feel-good hormones and neurotransmitters work, we may be able to trigger them more easily.

Positive neurochemicals viz. Dopamine, Oxytocin, Serotonin, Endorphins [1] and Endocannabinoids [2] (DOSE) are happiness offering agents [3] secreted in humans. Situations can trigger DOSE to flow and these can also be intentionally secreted to gain and bring back the pleasures of happiness. Consciously or unconsciously, we all try to live life with such happiness. Those who succeed in doing so, live happily.

Dopamine

"The Reward Molecule" dopamine is responsible for reward-driven behavior and pleasure seeking.[2] Dopamine motivates to attain the set goals and gives a surge of reinforcing pleasure for attaining them. Lack of dopamine secretion is responsible for self-doubt, low enthusiasm and low self esteem. With low levels of dopamine individual opts for escapist choice of choosing the easier option and with higher levels of dopamine one exerts greater to attain even more.

Chop big goals into many smaller ones so that attainment of each becomes easy and the brain celebrates more often with frequent dopamine release. It is good to celebrate with happiness giving activities like going to favorite restaurant, eating choicest food, having favorite drink, watching a show, going to forest, climbing mountain or taking spouse out. Be careful to avoid the post-ictal depression – hangover following the dopamine surge. A massive high can be followed by subsequent depression. Hence be happy but not too ecstatic. Create new goals before attaining the current one. This will provide the continuum, opportunity for recurrence of happiness occurrence through re-secretion of dopamine. As an employer/ leader/ supervisor, recognize the accomplishments of your team members. Sending them an encouraging email/note or giving a bonus is a "dopamine-hit" to increase their motivation and higher productivity.[1]

Oxytocin

"The Bonding Molecule" [2] oxytocin creates intimacy, trust, and strengthens relationships. It is released by men and women during orgasm and by mothers during childbirth and breastfeeding. Animals reject their offspring when the release of oxytocin is blocked. Oxytocin secretion increases fidelity. Oxytocin is the glue that binds together healthy relationships.

It is known as the "cuddle hormone" or the "love hormone," because it is released when people snuggle up or bond socially.4 One sure way to keep oxytocin flowing is to give someone a hug. Inter-personal touch not only raises oxytocin, but reduces cardiovascular stress and is immuno-stimulant. Giving someone a gift also raises their oxytocin levels. Supervisors can strengthen work and personal relationships through a simple birthday or anniversary gift.

Serotonin

"The Confidence **Molecule"** 2 serotonin flows when one feels significant or important. Loneliness and depression are present when serotonin is low. Low serotonin therefore results in people joining gangs and criminal activity culture. Socializing, kin group and 'community' facilitate serotonin release. Most antidepressants focus on the production of serotonin.

Reflecting on own past achievements allows the brain to re-live the experience. The brain has trouble telling the difference between what is real and what is imagined, so it produces serotonin in both the cases. Gratitude practices are popular for this reason; they are reminders and mental pictures of all the good things one has experienced.1 To get a serotonin boost during a stressful day, take a few moments to reflect on your significant, noteworthy past achievements and victories. Another way to boost serotonin levels is to have lunch or coffee outside and expose yourself to the sun for 20 minutes daily so that your skin absorbs UV rays which promote Vitamin-D and serotonin production.

Endorphins

"The Pain-Killing Molecule" [2] endorphins, are released in response to pain and stress, and help to alleviate anxiety. The surging "second wind" and euphoric "runners high" during long distance or marathon running are a result of endorphins.

Endorphins are credited as the cause of the feeling of euphoria and wellbeing found in many forms of exercise, so proponents of this theory believe that the second wind is caused by their early release.5 Many of these proponents feel that the second wind is very closely related to - or even interchangeable with - the runner's high.6

Similar to morphine, endorphins act as an analgesic and sedative, diminishing the perception of pain. Along with exercise, laughter is one of the easiest ways to induce endorphin release. Even the anticipation and expectation of laugher e.g. attending a comedy show, increases levels of endorphins. Taking your sense of humor to work, forwarding funny emails / what's ap, and finding several things to laugh at during the day is a great way to keep your endorphins flowing.

Aromatherapies work on the principles of rejuvenating through olfactory sense. The smell of vanilla and lavender has been linked with the production of endorphins. Dark chocolate and spicy foods cause brain to release endorphins. Keep some scented oils and dark chocolate at your desk for a quick endorphin boost.

Endocannabinoids

"The Bliss Molecule" [2] endocannabinoids are synthesized by

humans and animals alike. These activate the same receptors as delta-9-tetrahydrocannabinol (^{9} THC) - the active component of marijuana (Cannabis sativa)[7]. These act through the CB-1 and CB-2 receptors of the cannabinoid system. Anandamide (from the Sanskrit "Ananda" meaning bliss) is the most well known endocannabinoid. 2 Anandamide has many effects in the body, including a role in reproduction and fertility, appetite regulation, reward, cell regulation, memory, pain relief, and mood.8 Although anandamide is produced naturally by the body, it is possible to boost its levels by exercise. The "runner's high" is thought to be related to the action of anandamide.8Another way to increase anandamide is to consume chocolate which contains anandamide.8

The happiness DOSE - comprising of Dopamine, Oxytocin, Serotonin, Endorphins and Endocannabinoids, is indeed an invaluable gift for motivated humans. All it requires is individual's recognition of the fact that one can exercise active volitional control over their secretion and release to derive the maximal benefit through generation of happiness. Be happy to understand that the DOSE is free and can be self regulated. Humans are perfectly designed to be happy and hence the brain has big natural resources to provide the blissful happiness.9 If we understood how our feel-good hormones and neurotransmitters work, we may be able to trigger them more easily than we realized. 10 Be happy.

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