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CELL PHONE ADDICTION AND HAPPY HORMONE RELEASE: A REVIEW

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ABSTRACT
Several hormones play a role in feelings of happiness and well-being. These include dopamine, serotonin, oxytocin, and endorphins. They are often referred to as "happy hormones" because they are associated with positive emotions and mood regulation. The addiction emphasizing on substance-free type of addiction (Smartphone) and the neurophysiological mechanisms that underlie this kind of addiction disorders. Social media offer unprecedented opportunities for connectivity and self-expression, their effects on Happy Hormones are complex and multifaceted.

KEYWORDS: Addiction; Smartphone; Happy hormone.

INTRODUCTION

The changes seen in the brain were associated with dopamine and serotonin systems backs up this idea of phone addiction. These two neurotransmitters are linked to multiple brain functions, including compulsive behavior and mood control.

Smartphones are so addictive because every time we use them—to like an Instagram post, watch a YouTube video, or play Wordle—it triggers a surge of dopamine. After an initial rush of dopamine, there's a dip like a craving: What goes up must come down.

The term of addiction is difficult to define, and the concept of addiction has been reflected as debatable; however, the most important definition of addiction is the dependence on a substance or activity.[1]

Cell phone addiction consists of four main components: obsessive phone use, behaviors such as repetitive checking for messages or updates; tolerance or longer and more intense of use; withdrawal or feelings of agitation or suffering without the phone; and functional impairment or interference with other life activities and face to face social relationships.[2] All these are very similar to the characteristics of internet addiction.[3]

Smartphones are no longer considered simply as "mobile or cell phones", based on the Internet and have a wide range of functions. This real-time information providers and powerful portable computers. In addition to making phone calls, users are able to play games, chat with friends, use messenger systems, access web services (e.g., blogs, homepages, social networks), and search for information.[4]

The exposure to mobile RF significantly enhances the level of ACTH and cortisol hormones over time. Our stereological data confirmed hypertrophy of the fasciculata layer of the adrenal cortex and vacuolization in brain tissue following long-term mobile RF radiation.

The physical and psychological effects of excessive cell phone use include headaches and memory loss, and the brain regions involved in the default mode network include the hippocampus, which explains why memory loss occurs in addicts.

Dopamine motivates us to take action and each time we hear a notification, we check our device. The problem is this dopamine boost is temporary and leads to a letdown.

Having too much or too little dopamine in some parts of the brain are linked to some mental illnesses including depression, schizophrenia and psychosis. Having too much dopamine is linked to being aggressive and having trouble controlling your impulses. Dopamine imbalances are also related to ADHD and addiction.

Dopamine and serotonin are molecules that send signals throughout the body; these chemicals affect how we feel. When dopamine is released in our brain, we feel a sense of temporary pleasure. Serotonin, while similar to

dopamine, creates a long-lasting feeling of happiness or well-being.

Our brains are designed to release dopamine when we do something that meets a survival need, like eating or having sex. Countless studies have shown that phone activity causes the release of dopamine in our brains, making us feel aroused, motivated, and happy.

Emerging evidence suggests that lifestyle factors associated with prolonged screen exposure—such as increased stress, sedentary behavior, and disrupted sleep—can negatively impact hormonal regulation, potentially leading to menstrual irregularities. Early health intervention can be the implication of the same.

DISCUSSION

Several hormones play a role in feelings of happiness and well-being. These include dopamine, serotonin, oxytocin, and endorphins. They are often referred to as "happy hormones" because they are associated with positive emotions and mood regulation.

Here's a more detailed look at each.

- **Dopamine**

Often called the "feel-good" hormone, dopamine is a neurotransmitter that plays a key role in the brain's reward system. It's released when we experience something pleasurable, like eating a delicious meal, achieving a goal, or even receiving praise.

- **Serotonin**

This neurotransmitter and hormone is involved in mood regulation, digestion, sleep, and learning. It helps to stabilize mood and reduce feelings of anxiety and depression.

- **Oxytocin**

Known as the "love hormone," oxytocin is released during social bonding, physical affection (like hugs and cuddling), and childbirth. It promotes feelings of connection, trust, and empathy.

- **Endorphins**

These hormones act as natural painkillers and are released in response to stress or discomfort. They can also be triggered by exercise, laughter, and other pleasurable activities, leading to a feeling of euphoria or "runner's high".

While these hormones are crucial for happiness, it's important to remember that happiness is a complex emotion influenced by various factors, including our environment, relationships, and overall well-being.

The use of term “Internet addiction” at first time is in 1996 by Goldberg. Internet addiction, also called pathological internet use, excessive internet use, compulsive internet use, problematic internet usage, can be defined as going to excessive nervous and aggressive state when deprived of using internet.[5]

Negative attitudes and feelings of fear due to smart phone usage are related to an increase risk of depression and anxiety. According to Jones, who carried out a study among students of Elon University, North Carolina, and the United States, students are always hooked to their mobile phones, and that determines their behaviour and negative psychological effect.[6-7]

This review also delves into the underlying neural mechanisms, such as the role of the mesolimbic dopamine pathway and the impact of disrupted circadian rhythms due to extended screen time.

CONCLUSION

Smartphone addiction forms a vicious cycle with psychopathology. The overuse of mobile phones may increase stress by the continuous checking and response to text messages and notifications.

The mobile phone use was negatively related to grade point average, but positive for anxiety. Results also showed that grade point average was better for people who were satisfied with their life, while anxiety was negatively related.

In conclusion, social media use can have a significant impact on the levels of dopamine and serotonin receptors in the brain. Social media can lead to augmented dopamine levels due to the reward and pleasure associated with receiving likes and comments. It can also lead to decreased dopamine receptor levels, making it harder to experience pleasure and reward from other activities. Social media use can also affect serotonin levels in the brain, leading to increased anxiety and stress, and decreased serotonin levels can donate to mood disorders such as depression. Therefore, it is crucial to be aware of the potential effects of social media use on the brain and to take steps to reduce its negative impact on mental health Smartphone undeniably improves access to knowledge and connectivity, but at the same time, its addiction is quite alarming.

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