THE OXYTOCIN EFFECT:
IS LOVE THE LATEST ANTIAGING LUXURY?

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For centuries people in love have been described as "glowing," but is there a biological reason for this? This question has been answered. Oxytocin, known as the love hormone, has been found to help protect skin and make it appear healthier and more youthful.

THE LOVE HORMONE

Oxytocin has long been considered an important hormone related to intercourse, birthing, and nursing, but it turns out that its importance goes far beyond this short list of functions. Oxytocin is produced in skin by keratinocytes in response to touch, like caresses, massages, hugs. In fact, not only does skin produce this important hormone, but it also responds to it. Oxytocin receptors are found on the fibroblasts in the dermis. When oxytocin is bound to its receptor, it suppresses the senescence-associated secretory phenotype (SASP). The senescence-associated secretory phenotype typically promotes a low-level chronic inflammatory state by secreting proinflammatory cytokines, such as interleukin-6, interleukin-1, chemokines, growth factors, and extracellular matrix-remodeling proteases. The longer the senescence-associated secretory phenotype is active, the more destruction of collagen, elastin, and skin matrix there is, leading to skin aging. Intuitively, blocking the senescence-associated secretory phenotype over time should protect skin from damage, but does it?

LOVE + SKIN

In order to answer the question of whether higher levels of oxytocin could protect skin and would correlate clinically, a pilot study was performed. This study looked at a group of women's skin conditions by photographing them using a standardized photography system and evaluating their skin conditions by using a skin age score. The skin age score is calculated using a standard set of parameters. It typically correlates with one's age. For example, if a 40-year-old scores a 40, she looks as expected for her age. If the score is lower than the participant's age, she looks younger than her age and vice versa. In addition, the participants' oxytocin levels were measured, and they were asked to fill out a lifetime sun-exposure questionnaire.

The results of this pilot study showed that the women with higher oxytocin levels looked better for their age, in spite of sun exposure. In fact, the participant with the highest oxytocin level in the study had the greatest reduction in skin age score, even though she reported the most lifetime sun exposure. This is the first time that scientists have been able to prove clinically that the presence of oxytocin correlates with a more youthful appearance.

THE OXYTOCIN SOCIAL EXCHANGE SYSTEM

There is preliminary research involving every system in the body showing that the presence of oxytocin has a positive or protective effect. For example, oxytocin affects the cardiovascular system by lowering blood pressure. Putting all of this information together leads to the realization that oxytocin has a seemingly global positive effect on people. Since oxytocin levels are increased with positive human interaction, the hormone helps people be healthier and their skin look more youthful, thus connecting social interaction to a biological effect. This social system is called the Oxytocin Social Exchange System. In essence, the more positive social interactions one has, the healthier and more vibrant they tend to be, which in turn helps attract more positive social interaction.

One of the important realizations about the Oxytocin Social Exchange System is that it appears to be biological proof that humans are designed to be social, needing to be together and not just communicate through cold digital means. As research into oxytocin continues, it is evident that something as simple as seeing a smiling face raises oxytocin levels and produces whole-body benefits.

Focusing on skin, the question is whether the effect of oxytocin can be utilized as an antiaging ingredient. Can the love effect be bottled? Well, there is a botanical, patent-pending cosmetic ingredient, Capsella bursa-pastoris or shepherd's purse, which has been linked to an oxytocin-like effect on skin. This new frontier in dermatology is an interesting one, and it shows that the glow of being in love is so much more than it seems.

Resource

1. Hayre, N. Oxytocin Levels Inversely Correlate With Skin Age Score and Solar Damage. J Drugs Derm. 2020: Vol 19(12). 1146-1148