

Oxytocin



the physiological meaning of love

This article presents the role of oxytocin in creating and maintaining human relationships, growth and good nutrition and how it can benefit general health.



Many of us are familiar with oxytocin and its association with physiological processes such as birth and breastfeeding. But since its uterine-contraction and milk-ejection properties were discovered in the early 1900s, scientific interest in this hormone has gradually increased and we now have a clearer picture of its direct immunological and mental functions.

Mainly produced and released by the posterior pituitary gland, this uncomplicated nine-amino-acid hormone acts in the brain as neuromodulator, but it also reaches other tissues via the blood, the nerves and by diffusion, being released freely into the plasma. Behaving as a hormonal messenger as well as a neurotransmitter, its multi-systemic action affects the endocrine network, the immune response and the mental activity in the short and long term.

At the physical level, oxytocin is known to promote a mother's cervical dilation prior to birth, contraction of the uterine muscles during baby and placenta expulsion and the consequent milk-eject reflex during lactation. It is also called the 'love hormone' as it participates in sexual arousal and orgasm and may facilitate sperm and egg transport after climax. Its association with its 'cousin' hormone vasopressin may reduce excretion of urine, as well as decrease heart rate and blood pressure. At the metabolic level, it is involved in balancing thyroid function, appetite control, increased digestion and nutrient assimilation.

The area of the brain where oxytocin is mainly produced is called the limbic brain, which is normally associated with emotional impulses and feelings. An increase of oxytocin production leads to feelings of calm and trust and reduced fear. Individuals that were given oxytocin showed increased ability to interpret other people's

emotions and had higher social interaction.

In a safe environment, oxytocin promotes better memorization and thus the capacity to learn. Helping to better establish memories, it may be the justification for the fact that some of us can only 'keep the good memories'.

The emotional effect of oxytocin in improving intellectual performance has already been identified in the market place. Companies recognise that combining work with leisure activities creates stronger bonds amongst staff and close networks between business partners, and so are spending a great part of their marketing budget on 'seasonal social gatherings' and 'holiday/scientific conferences'.

Oxytocin's inhibitory effect on cortisone production is one of body's most important endocrine relationships. The presence of higher levels of oxytocin in the blood leads to lower levels of cortisone. As immune suppression decreases, inflammation and pain reduce, cellular growth is stimulated and healing encouraged.

This suggests that those health professionals who from the start of a therapeutic relationship are able to connect with patients can go far beyond their technical skills because patients who feel more connected with the practitioner will have a greater chance of recovering from their chronic conditions.

There has been evidence that imbalances in the oxytocin production process may be related to eating disorders such as anorexia nervosa and bulimia. Other conditions that may result from lack of oxytocin include cardiovascular disease, high blood pressure, diabetes, pain and general inflammation. Mental health-related disorders such as anxiety, schizophrenia, autism, and post-partum depression as well as sexual behavioral problems have also been associated with low oxytocin production.

Consequently, since its molecular formula was replicated in the laboratory, synthetic oxytocin has been used in hospitals and is presently the most commonly prescribed drug to induce birth, promoting and maintaining the uterine contractions through the three stages of labour.

However, the pharmaceutical version of this hormone presents potential side effects which ironically may hinder the natural birth process, e.g., uterine bleeding and rupture, violent contractions, pain, nausea, vomiting and severe allergic reactions as well as risks for the baby such as jaundice, abnormal heart rhythm, brain damage, seizure and low Apgar score.

As we gain a greater understanding of the factors that contribute to regulating oxytocin's process, we are becoming more able to define strategies that stimulate its natural levels in the human body and practitioners are able to present alternative and safe strategies to deal with its associated conditions.

We must remember oxytocin is only produced in an environment perceived as safe, private and warm, i.e., patients should be protected from stressful, highly stimulating conditions. For example, mums give birth more easily and quickly when left in quietness, in a dim light and warm temperature, protected from strong noises or any other stimuli such as verbal communication.



As simple as it may seem, the solution for diverse chronic disorders may lie in skin-to-skin contact, long-term breastfeeding and co-sleeping, increase of social activities such as dancing, regular exercise, swimming, running, being out in the nature, massage and allocating time for calmness and meditation.

At the dietary level, practitioners could recommend oxytocin-friendly foods such as highly dense cholesterol, protein and magnesium-rich foods, not forgetting to encourage patients to take time to eat in peace (stopping working at lunch time significantly enhances the nutritious value of the meal!).

The key role of this hormone in the maintenance of a strong immune system opens the discussion for preventative medicine and how it could guide policy makers in designing better public health measures. Healthy citizens who are less prone to becoming depressed are more productive and active, costing less to the government. In the long run, there seems to be little argument not to take this information into the design of better societies.

At the clinical level, the most phenomenal

quality of oxytocin is how it contributes to the 'reprogramming' of memories. As we understand it, our brain has little capacity in distinguishing between real and imaginary events, so it is acknowledged that remembering and discussing traumatic experiences may not always be the best approach in recovering from the damage caused by those events. And whilst we may benefit from dealing with the trauma at an intellectual level, it is at the limbic level where information is stored, emotions are converted and new memories are formed. The automatic consequence of increasing activities that are perceived as 'happy' is the eventual replacement of bad memories with good ones at the same time as supporting a different interpretation of the world around us.

Trauma may then be dealt with by using a physiological approach as if we were hardwired to be healthy and happy. After all, solutions to depression and anxiety may be held in joy and peace, the ultimate evidence we should trust the body, mind and spirit to heal itself.

Oxytocin may be the hormonal manifestation of a truly holistic key to our well-being. **CHW**

© Dr Adriana Candeias (LCPH) runs clinics in London & Portugal providing natural therapies for the needs of the modern patient and facilitates seminars on Primal Health, applied physiology and nutrition for therapists and the general public. She can be contacted through on 07973 785 901, (email) info@appliedsustainablehealth.co.uk. CPH run a unique Post graduate course in Homeopathy for qualified CAM Practitioners who would like to add homeopathy to their practice as well as a Foundation course in Health & Healing. Contact Tessa on 0208 445 6123 or go to www.collegeofpracticalhomeopathy.com for further information.