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Differential Effects of Intranasal Oxytocin Administration On Sexual Functions in Healthy Females: a Laboratory Setting

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The neuropeptide oxytocin (OXT) has an impressive variety of physiological functions in maternal and paternal behavior as well as in human sexual behaviors. Based on our previous studies, we hypothesized that OXT should be able to positively influence parameters of sexual function in females.

We employed a double-blind, placebo-controlled, crossover design in a laboratory setting involving 27 healthy females (mean±SD: 27.52 ± 8.04). The acute effects of intranasal administered OXT (24 I.U.) on sexual drive, arousal, orgasm and refractory aspects of sexual behavior were analyzed using a psychometric instrument (Acute Sexual Experiences Scale). Additionally we assessed the physiological parameters (e.g. vaginal pulse amplitude, VPA; vaginal blood volume, VBV) using vaginal photoplethysmograph.

A confirmatory data analysis, a particularly suitable approach for crossover-design data was chosen for the psychometric parameters. Confirmatory analysis of treatment differences yielded an effect of oxytocin on the ability of having an orgasm in the laboratory ($p < 0.05$) as well as on post orgasm contentment ($p < 0.05$). Moreover, data indicated a trend concerning the effect of oxytocin on lubrication ($p = 0.085$). The physiological parameters (VPA and VBV) showed moderate psychophysiological activation but were not affected by OXT.

Our results indicated that intranasal OXT administration in healthy females significantly increased the ability of having orgasm and contentment after orgasm. Women with OXT administration felt easier to have orgasm and more satisfied after sexual intercourse. These findings warrant further investigations, including subjects with sexual and relationship problems.