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**Effect of oxytocin pretreatment on cannabis outcomes in a brief motivational intervention.**

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**Abstract**
Motivational enhancement therapy (MET) is efficacious in reducing cannabis use, yet benefits are generally short-lived. Oxytocin is a hypothalamic neuropeptide that promotes prosocial behaviors and plays a role in drug-related neuroadaptations; as such, oxytocin may enhance the effect of MET on cannabis outcomes. Cannabis dependent adults were randomized to receive MET plus oxytocin (n = 8) or placebo (n = 8). Participants receiving oxytocin showed reductions in amount of cannabis used daily and number of sessions per day. Participants receiving placebo did not evidence significant reductions. Powered clinical trials of oxytocin-enhanced MET for cannabis use disorder are warranted.

*Keywords*:
oxytocin, cannabis, treatment



**1. Introduction**

According to the most recent national treatment data, almost one million people received treatment for cannabis use disorder (CUD) in 2013 (SAMHSA, 2014). Despite the high demand for treatment, abstinence rates remain modest and durability is limited (Sherman and McRae-Clark, 2016). There is a clear need for novel interventions to improve treatment outcomes.

Oxytocin is a hypothalamic neuropeptide that plays a critical role in complex social cognition and behavior. Oxytocin promotes various prosocial behaviors including approach, pair bonding, empathy, and trust (Meyer-Lindenberg et al., 2011). Oxytocin also plays a role in neuroadaptations resulting from chronic drug abuse (Lee et al., 2016), and has been shown to attenuate the development of opioid tolerance, and inhibit cocaine- and methamphetamine-induced drug-seeking behaviors, reward, and reinstatement in rodents (see Sarnyai and Kovacs, 2014, for review). With respect to cannabis, oxytocin