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## JOURNAL ARTICLE

# Effects of long-term psychological stress on sexual behavior and brain catecholamine levels

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The effects of long-term psychological stress on sexual behavior and brain catecholamines were investigated in rats. Stress was applied using the communication box developed by Ogawa and Kuwabara (1996), and a psychological stress group (n = 12), a physical stress group (n = 5), and a control group (n = 5) were established. Stress was applied for 1 hour every day for 10 consecutive weeks. Sexual behavior was observed before the start of exposure to stress and 2, 4, 6, 8, and 10 weeks thereafter. The results showed that long-term psychological stress impaired the sexual behavior of male rats. Long-term psychological stress decreased the concentrations of catecholamine and its metabolites in the brain, especially in the medial preoptic area (MPOA). Thus, we hypothesized that low catecholamine neurotransmission in the brain results in impairment of male rat sexual behavior. We then tried to restore the impaired sexual behavior by administration of a cerebral-activating drug, indeloxazine hydrochloride. The administration of indeloxazine hydrochloride for a 3-week period restored the sexual behavior that had been impaired by long-term psychological stress. These present results suggest that impairment of neurotransmission in the central nervous system could be a cause of sexual dysfunction, and activation of neurotransmission may result in restoration of impaired male sexual behavior.

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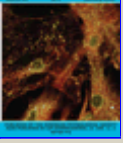
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