World Congress on Physical Medicine and Rehabilitation
International Congress on Psychology & Behavioral Sciences
June 19-20, 2024 | Tokyo, Japan

Joint Event

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The impact of Sweet-Flavored cigarettes on cognitive function and stress relief in smokers

Abstract:

It is well known that sweet flavors can relieve stress and make people feel relaxed and happy, which has been confirmed in a large number of studies on the psychological and emotional changes brought about by chewing gum, sweet-flavored cigarettes can bring about the same experience similarly. To describe the effects of sweet-flavored cigarettes on smokers' cognition and mood, salivary cortisol (a biomarker of the hypothalamic-pituitary-adrenal axis) and alpha-amylase (a biomarker of the autonomic nervous system) were determined in saliva samples collected from 37 volunteers, who were recruited to complete 20 three-digit addition and subtraction mental arithmetic problems in 10 minutes while smoking sweetened and unsweetened (another day, same period) cigarettes. Four saliva samples were collected at four-time points (basal point, after-smoking, 10-minute resting, and 20-minute resting). Salivary cortisol was analyzed by nanofiber solid-phase extraction combined with high-performance liquid chromatography-mass spectrometry (HPLC-MS), and α-amylase was analyzed by a flow injector developed by our research group. The area under the concentration-time curve (AUC) was used as a statistical calculation parameter. It was found that cigarettes fortified with sweeteners improved smokers' cognitive abilities, increased their efficiency in dealing with work tasks, and relieved smokers' psychological stress in real time.

Biography

Yan Yan is currently a PhD student at the School of Public Health at Southeast University, specializing in Nutrition and Food Hygiene. Her primary research interests focus on the development of nanofiber solid-phase extraction materials and their applications in detecting metabolites in biological samples