Synopsis of Original Research Paper

Effects of plant-derived odors on sleep

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Effects of the odor of α-pinene, an odorous compound found in extracted oils of various plants including coniferous trees, were investigated in terms of sleep quality. Lavender essential oil, which has been reported to have a positive influence on sleep, was used for purposes of comparison. Eight male university students wore a wrist actigraph and heart rate monitor for several nights while they slept inhaling the odor of α-pinene, lavender, or no odor (control). They also filled in the OSA-MA sleep inventory and a sleep diary in the morning. Subjective odor intensity was significantly higher for α-pinene and lavender compared to that of the control. The average score for the factor IV of the OSA-MA sleep inventory (recovery from fatigue) was higher, and sleep latency determined by actigraphy was shorter under the α-pinene condition compared to the control. No significant difference was observed in heart rate and heart rate variability indices among three conditions. Since there are several limitations in this study, such as a small sample size or less controlled sleep environment, further studies are needed to precisely assess the effects of α-pinene on sleep quality.