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FILE: ■Lavender (*Lavandula angustifolia*)

■Stress
■Sleep
■Infants

HC 020685-356

Date: July 15, 2008

RE: Lavender-scented Bath Oil Promotes Sleep and Reduces Stress in Infants

Field T, Field T, Cullen C, et al. Lavender bath oil reduces stress and crying and enhances sleep in very young infants. *Early Hum Dev.* 2008 Jun;84(6):399-401.

The aroma of lavender (*Lavandula angustifolia*) improves relaxation, attentiveness, mood, and performance on math problems in adults. This study has examined the effect of bath oil with a "lavender-like" aroma on very young infants and their mothers.

Mothers and their infants (n=30, aged 1 week to 4.5 months) from a nursery school were recruited for this clinical study. The mother-infant pairs were randomly assigned to 1 of 3 groups: a lavender-scented bath oil group, a non-scented bath oil group, and a lavender-scented bath oil group in which the mothers received advertising information. The advertising informed mothers that the lavender aroma bath oil "helps calm babies when they get irritated or helps settle them down before bedtime." Baths were prepared by a research assistant, and then the mothers placed and bathed their infants in the scented or unscented bath oil. After the bath, the mothers dried their babies and placed them in a basinet to sleep before leaving the room. The mother-infant interactions during the bath and the infants' sleep time were videotaped and coded. Saliva samples were collected from the mothers and infants; and the samples were analyzed for cortisol levels before and 20 minutes following the bath.

The results show that the mothers in the lavender aroma and the non-aroma group were more relaxed during the bath than the mothers in the lavender aroma plus advertising group ($P<0.01$), possibly indicating performance anxiety due to the advertising information. The mothers in the lavender aroma group tended to smile and touch their infants more than those in the non-aroma group ($P<0.05$ and $P<0.01$, respectively). In addition, the infants in the lavender aroma group looked at their mothers more than those in the non-aroma group and the lavender aroma plus advertising groups ($P<0.01$). The infants in the lavender aroma

group were in a deep sleep more than the infants in the non-aroma group ($P < 0.05$). The infants in the lavender aroma group also cried less following the bath than the infants in the non-aroma group ($P < 0.05$). The infants in the lavender aroma plus advertising group were not significantly different from the other groups in terms of sleep or crying. Cortisol levels of the mothers decreased following the lavender aroma baths ($P < 0.005$), which indicates decreased stress levels. The cortisol levels of the infants decreased following the bath in the lavender aroma group ($P < 0.05$), but were slightly increased in the non-aroma group.

In this study, lavender aroma bath oil increased relaxation in mothers and infants, as evidenced by cortisol decreases, behavioral changes, and increased infant sleep. The lavender scent was never chemically defined by the authors and cannot be construed to be lavender essential oil. Further research is needed to elucidate the mechanism for these observed effects. It would also be of interest to study whether the lavender scent caused more touching of infants by mothers as suggested by the authors, or if touching alone could lead to subsequent relaxation. The authors conclude "In the interim, these data suggest that infants with irritability and sleep problems could be calmed by this aroma and may experience more restful sleep."

—*Marissa N. Oppel, MS*

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