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# Massage therapy by parents improves early growth and development

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### Abstract

This study assessed the effects of moderate and light pressure massage on the growth and development of young infants. A recent study by Diego, Field, Sanders, and Hernandez-Reif (2004) showed that persons who were given moderate pressure massage, as compared with persons who received light massage or vibratory stimulation, experienced a decrease in heart rate, EEG changes associated with a relaxation response and positive affect, and the greatest decrease in stress. In the present study, mothers were instructed to massage their newborn infants once per day using either light or moderate pressure. The infants' growth (i.e., weight, length, head circumference), sleep behavior, and performance on the Brazelton scale were assessed soon after birth and at one month of age. As compared to infants who received a light pressure massage, infants in the moderate pressure group gained more weight, were greater length, performed better on the orientation scale of the Brazelton, had lower Brazelton excitability and depression scores, and exhibited less agitated behavior during sleep.

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### Section snippets

## Participants

The sample was comprised of 104 full-term newborns ( $M$  gestational age = 39 weeks) who were randomly assigned to receive moderate pressure massage or light pressure massage. Eight infants did not complete the study (four in each group), yielding a final sample of 96 infants. The infants in both groups were normal birthweight ( $M = 3330.4$ , moderate;  $M = 3445.4$ , light). The mothers were an average age of 26 years and were low socioeconomic status ( $M = 3.6$  on the Hollingshead) and were distributed...

## The Brazelton Neonatal Behavior Assessment Scale (BNBAS) (Brazelton, 1973)

This scale was administered at birth and at one month of age. The scale is comprised of 20 neurological reflex items and 27 other items summarized according to seven factors: habituation, orientation, motor behavior, range of state, state regulation, autonomic stability and abnormal reflexes (Lester, Als, & Brazelton, 1982). In addition, robustness, excitability and depressive behavior were recorded. The Brazelton examiners were unaware of the infants' group assignments and were trained to a...

## Results

Multivariate repeated measures analyses of variance were conducted on the measures taken on the first and last days of the study, including weight gain, length, head circumference, Brazelton scale performance and sleep-wake measures. Univariate analyses of variance were made on the individual measures. Post hoc Bonferroni  $t$  tests were performed on significant interaction effects.

As can be seen in Table 2, the moderate pressure massage-therapy group showed a significantly greater increase than...

## Discussion

The improved orienting scores of the infants who received moderate versus light pressure massage therapy are consistent with data from our previous study on increased alertness following massage in infants of depressed mothers. Improved orienting is also consistent with our data on adults showing EEG changes that conformed to a pattern of heightened alertness. In that same study, improved performance on math tasks (less time required and fewer errors) accompanied the EEG pattern of alertness in ...

## Acknowledgements

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funding from Johnson and Johnson....

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