



Massage therapy may improve behavior in newborns exposed to HIV

CITATION: Scafidi, F., & Field, T. (1996). Massage therapy improves behavior in neonates born to HIV-positive mothers. *Journal of Pediatric Psychology, 21*(6), 889–897.

LEVEL OF EVIDENCE: IB1a

RESEARCH OBJECTIVE/QUESTION

To determine whether tactile/kinesthetic stimulation could facilitate weight gain, cognitive and developmental performance and reduce stress behaviors in infants born to HIV-positive mothers.

DESIGN

X	RCT		Single Case		Case Control
	Cohort		Before-After		Cross Sectional

Subjects were randomly assigned using a table of random numbers to a treatment (massage) group or a control group.

SAMPLING PROCEDURE

X	Random	X	Consecutive
X	Controlled		Convenience

SAMPLE

N=28	M age=39 weeks gestational age	Male=NR	Ethnicity=67% Black; 33% Hispanic	Female=NR
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NR = Not reported

PARTICIPANT CHARACTERISTICS

Criteria for exclusion included: chromosomal aberrations, congenital heart malformations, gastrointestinal disturbances, perinatal complications, CNS dysfunctions, infections such as meningitis and herpes encephalitis, or intravenous medication or feeding.

Inclusion criteria included being medically stable and free from ventilator.

MEDICAL DIAGNOSIS/CLINICAL DISORDER

Exposure to HIV

OT TREATMENT DIAGNOSIS

N/A

OUTCOMES

Weight gain (biological)

Measures	Reliability	Validity
Neonatal Behavioral Assessment Scales	NR	NR
Daily weighing	NR	NR
Brazelton administered before and after intervention	NR	NR

NR=Not reported

Outcome - OT terminology

Performance Components

Behavior: habituation, orientation, motor, range of state, regulation of state, autonomic stability, reflexes, excitability, depression, stress behaviors

Outcome - ICDH-2 terminology

Impairment

INTERVENTION

Description

- Both groups received standard medical and nursing care. Relatively high levels of environmental stimulation (sight and sound) were present. There was a high nurse-to-infant ratio and volunteers held and fed the infants.
- The massage group had sessions of three standard 15-minute phases. The first and third massage sessions provided tactile stimulation, and the second provided kinesthetic stimulation. The tactile phases were conducted in prone; firm touch was used over specific regions of the body in a specific order. For the kinesthetic phase, the infants were supine and were moved passively through flexion and extension of the arms and legs in a specific order.

Who delivered

A research associate.

Setting

Hospital nursery

Frequency

Three 15-minute periods during 3 consecutive hours

Duration

10 days (M–F)

Follow-up

No long-term follow up

RESULTS

A MANOVA was used to compare the groups on the first and last days of the study of the Brazelton Scale cluster scores.

- Significant group by repeated measures interaction effect ($F[2,26]=7.93, p<.01$) was found.
- Individual ANOVA scores suggested that the massage group had more optimal changes on the following scales than the control group: habituation, motor, range of state, and autonomic stability.
- The massage therapy group averaged a significantly greater weight gain.
- The control group did not improve, and in fact, declined on autonomic stability, excitability, and stress behaviors

CONCLUSIONS

- The infants in the massage group improved on many of the Brazelton Scales and gained weight, which provides support for the use of massage therapy for HIV-exposed newborns.
- The fact that the control group stayed the same or declined on many measures suggests that exposure to HIV may contribute to developing delays and failure-to-thrive as early as the newborn period in the absence of treatment that provides stimulation.

LIMITATIONS**Biases**

X	Attention		Masking/blinding		Drop outs
	Contamination		Co-intervention		

- No long-term follow-up.
- The recruitment sequence with the mothers was unclear.
- The amount of treatment touch pressure was not clear; not replicable.
- Latency effects of treatment were not measured (CNS compromise).
- Years of the cohort were not specified; it is important to compare HIV medical protocols.

- One hospital was used.
 - The sample was low SES and predominantly Black; results are not generalizable to other populations.
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- Terminology used in this document is based on two systems of classification current at the time the evidence-based literature reviews were completed: *Uniform Terminology for Occupational Therapy Practice—Third Edition* (AOTA, 1994) and *International Classification of Functioning, Disability and Health (ICIDH-2)* (World Health Organization [WHO], 1999). More recently, the *Uniform Terminology* document was replaced by *Occupational Therapy Practice Framework: Domain and Process* (AOTA, 2002), and modifications to *ICIDH-2* were finalized in the *International Classification of Functioning, Disability and Health* (WHO, 2001).

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For more information about the Evidence-Based Literature Review Project, contact the Practice Department at the American Occupational Therapy Association, 301-652-6611, x 2040.

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