



A product of the American Occupational Therapy Association's  
Evidence-Based Literature Review Project

**Massage therapy benefits adolescents with Attention Deficit/Hyperactivity Disorder (ADHD)**

**CITATION:** Field, T. F., Quintino, O., Hernandez-Reif, M., & Koslovsky, G. (1998). Adolescents with attention deficit hyperactivity disorder benefit from massage therapy. *Adolescence*, 33, 103–108.

**LEVEL OF EVIDENCE: IA1a**

**RESEARCH OBJECTIVE/QUESTION**

Alternative forms of therapy, namely massage and relaxation therapy, were investigated in this study.

**DESIGN**

|   |        |  |              |  |                 |
|---|--------|--|--------------|--|-----------------|
| X | RCT    |  | Single case  |  | Case control    |
|   | Cohort |  | Before–after |  | Cross-sectional |

RCT = randomized control trial

Randomly assigned to massage therapy group or relaxation therapy group based on stratification procedures.

**SAMPLING PROCEDURE**

|   |            |  |             |
|---|------------|--|-------------|
|   | Random     |  | Consecutive |
| X | Controlled |  | Convenience |

**SAMPLE**

|        |                    |           |  |            |
|--------|--------------------|-----------|--|------------|
| N = 28 | M age = 14.6 years | Male = 28 | Ethnicity: 29% = nonwhite<br>Hispanic, 71% = white | Female = 0 |
|--------|--------------------|-----------|--|------------|

**PARTICIPANT CHARACTERISTICS**

Inclusion criteria: None specified

- ADHD Diagnosis
- DSM-III criteria
- 90% were middle socioeconomic status
- Participants were recruited from self-contained classrooms for adolescents with emotional disturbances.

**MEDICAL DIAGNOSIS/CLINICAL DISORDER**

ADHD

**OT TREATMENT DIAGNOSIS**

N/A

**OUTCOMES**

General happiness, depression and empathy measures, behavioral observations, on-task time in the classroom

| Measures   | Reliability | Validity |
|--|-------------|----------|
| Happy Face Scale   | NR          | NR       |
| Fidgeting observation (blind observer)   | NR          | NR       |
| Self-report measures of depression and empathy                                       | NR          | NR       |
| 20-question Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) | NR          | NR       |
| Empathy Scale (Bryant, 1982)   | NR          | NR       |
| Teachers assessment (on task time)   | NR          | NR       |
| Conners Rating Scales (Conners, 1985)  | NR          | NR       |

NR=Not reported

**Outcome—OT terminology**

Performance Components:

- Cognitive integration and components
- Psychosocial skills and psychological components

**Outcome—ICIDH-2 terminology**

Impairments

**INTERVENTION**

- Massage therapy: 15 participants received a 15-min massage after school for 10 consecutive days
- Relaxation therapy: 14 participants participated in 15-min relaxation sessions after school for 10 consecutive days

## **Description**

- A. Massage therapy: Moderate pressure and strokes for 5 min in the neck, across the shoulders, and from the neck to the waist
- B. Relaxation therapy: Adolescents were instructed to perform progressive muscle relaxation sessions and relax the same body parts that were massaged in the massage therapy group

## **Who delivered**

Not reported

## **Setting**

Classroom

## **Frequency**

Massage: 15-min sequence per day

Relaxation: 15-min session per day

## **Duration**

Massage: 10 consecutive days

Relaxation: 10 consecutive days

## **Follow-up**

Not reported

## **RESULTS**

- Analysis of variance with pre–post sessions and first/last day of treatment as repeated measures were performed.
- Massage therapy group selected happier faces after the sessions on both the first and last days of the treatments and demonstrated less fidgeting after sessions.
- No significant pre–post session changes were noted for the relaxation group.
- Repeated analysis of variance yielded the following first/last day changes
  - 1) The adolescents receiving massage therapy averaged more time on task in the classroom as observed by their teachers.
  - 2) The adolescents receiving massage therapy received significantly better scores in the Conners scale.
  - 3) No significant changes were noted on the depression or empathy scales.
  - 4) No changes were noted on any of the measures for the relaxation group.

## **CONCLUSIONS**

- Drug therapy and behavior modification techniques are commonly used to treat ADHD; two alternative therapies were investigated here.

- Although the comorbid problems of depression and lack of empathy were not altered in this study, the adolescents reported feeling happier after their massage sessions, and they were observed to fidget less.
- Longer term effects were reported by their teachers, including more time on task in the classroom and lower Conners hyperactivity scores.
- Underlying mechanisms for the massage therapy lesser activity relationship is not known, increased serotonin levels noted in other studies of massage might help modulate elevated dopamine levels noted in youths with ADHD.

## LIMITATIONS

The relaxation therapy may have been perceived as “hard work” by the subjects compared with massage therapy (as reported by some of the adolescents) and so simply not enjoyed as much.

- 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).

This work is based on the evidence-based literature review completed by Erna Imperatore Blanche, PhD, OTR/L, FAOTA, and Gustavo Reinoso, OTR/L. Contributions to the evidence brief were provided by Michele Youakim, PhD.

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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