DD 1

AOTA Evidence Briefs
Developmental Delay in Young Children
Structured Abstracts

Home intervention during first year of life may benefit children who fail to thrive

CITATION: Black, M. M., Dubowitz, H., Hutcheson, J., Berenson-Howard, J., Starr, R. H. (1995). A randomized clinical trial of home intervention for children with failure to thrive. Pediatrics, 95(6), 807–814.

LEVEL OF EVIDENCE: IA1a

RESEARCH OBJECTIVE/QUESTION
The purpose of this study was to evaluate the efficacy of family-focused, home-based intervention on the growth and development of children with nonorganic failure to thrive (NOFTT).

DESIGN

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

Randomized control trial: subjects were randomized and placed into the clinic plus home intervention group or the clinic only group

SAMPLING PROCEDURE

	Random		Consecutive
X	Controlled		Convenience

The majority of subjects were recruited from a pediatric clinic served by a university; the rest were recruited from community health maintenance organizations and pediatricians.

SAMPLE

N=130	M age=12.7 months	Male=NR	Ethnicity=90% Black	Female=NR

NR = Not reported

PARTICIPANT CHARACTERISTICS
Most were from single-parent households with few economic resources.

Eligibility criteria included age younger than 25 months; weight for age below the 5th percentile; gestational age of at least 36 weeks; birth weight appropriate for gestational age; no significant history of perinatal complications; and the absence of congenital disorders, chronic illnesses, or developmental disabilities that could interfere with growth or development

MEDICAL DIAGNOSIS/CLINICAL DISORDER
Nonorganic failure to thrive

OT TREATMENT DIAGNOSIS
N/A

OUTCOMES

Measures	Reliability	Validity
Age- and gender- specific charts from the National Center for Health Statistics	not specified for standardized tests	NR
Bayley Scales of Infant Development or the Battelle Developmental Inventory	not specified for standardized tests	NR
Receptive/Expressive Emergent Language Scale	not specified for standardized tests	NR
Parent–Child Early Relational Assessment	not specified for standardized tests	NR
Home Observation for Measurement of the Environment Scales (HOME)	Interrater reliability on observational measures > 90%	NR

NR=Not reported

Outcome—OT terminology
Growth, cognitive development, motor development, language development, parent–child behavior during feeding, home environment.

Outcome—ICIDH-2 terminology
- Disease or disorder
- Impairment
- Activity
- Participation

INTERVENTION

Description
The home intervention group received home visits. “The home visiting program was developed as a negotiated partnership between families and interventionists. Home intervention was based on an ecologic model that included formation of a therapeutic alliance between the interventionist and the mother, support to the mother’s personal,

family, and environmental needs; opportunities to model and promote healthy parent–child interaction and development; and problem-solving strategies regarding personal, parenting, and children's issues. The Hawaii Early Learning Program was used as a curriculum guide for the parent–child interaction and child development phases of the intervention." (p. 809). Both groups attended a clinic for nutrition intervention.

Who delivered
Lay home visitors provided intervention under the supervision of a community health nurse.

Setting
Clinic and home

Frequency
Home intervention was scheduled weekly; the mean number was 19.2 visits, with each lasting close to 1 hour.

Duration
1 year

Follow-up
1 year

RESULTS
Repeated-measures multivariate analyses of covariance were used to examine changes in the dependent variables during the intervention period. Univariate analyses of covariance were used to examine HOME scores because baseline measures were not available.

- Both groups showed significant growth during the 1-year intervention period (weight, F=32.23; P< 001; height, F=9.94; P=.002). Changes were not related to intervention status or to the child's age at recruitment.

- There was a significant decline in cognitive development during the 1-year period (F=44.12; P< .001). The younger children in the home/clinic group experienced less decline than younger children in the clinic only group (F=5.13; P=.02).

- There was no change in motor development associated with intervention.

- There was a decline in expressive and receptive language status over time (F=6.45; P=.01) and F=31.96; P<.001). Across age groups, children in the home and clinic group showed less of a decline.

- There were significant improvements in children's interactive competence during feeding and parents became more controlling during feeding (F=34.06, P<.001); however, there were no changes associated with intervention status.

- Children receiving home and clinic intervention were living in more child-centered homes than children in the clinic only group (F=.84, P=.05).

CONCLUSIONS

The findings support cautious optimism regarding home intervention during the 1st year of life provided by a trained lay home visitor.

The impact of home intervention on the home environment is encouraging; however, more frequent and longer-term involvement may be needed to implement changes necessary to promote and maintain healthy development over time.

LIMITATIONS

- Recruitment of sample, how sample was determined, how clinics identified to participants are not clear.
- HOME as an outcome measure has had validity questioned with low-income families because it may have a cultural bias toward low-income homes.
- HOME was used to measure outcomes 18 months after intervention took place, raising validity issues.
- There was a tremendous range in number of interventions received (0 to 47).
- Parent satisfaction with the program was not measured
- At 1 year follow up, researchers switched from the Bayley Scales for Infant Development to the Battelle Developmental Inventory.
- Generalization is limited to Black sample with low-income, low-education (63% did not finish high school) households headed by single women.
- Targeted only children with NOFTT.
- Year(s) of data collection were not specified.

- 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.