

Reach Out and Read – Earlier! Evaluating the effects of a ROR program for <6 month old infants on home literacy environment

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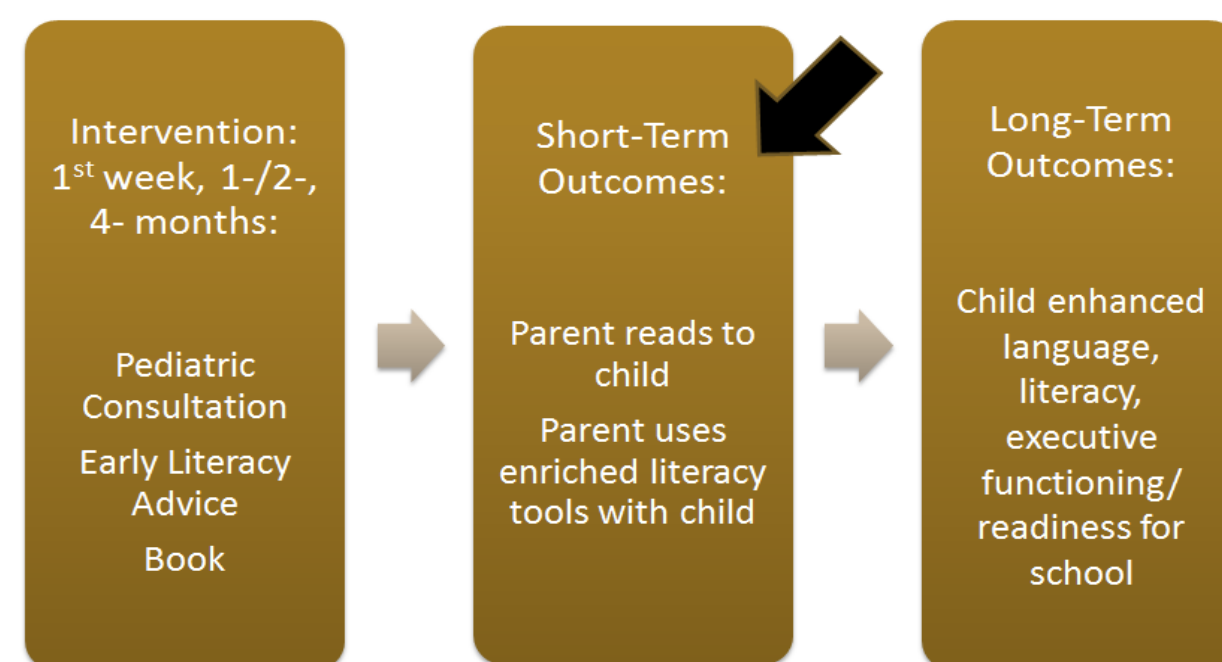


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Introduction

- Language and literacy skills in early childhood form the base on which children learn to read in the early primary school years
- The American Academy of Pediatrics (2014) recommends that primary care providers support literacy promotion starting in infancy
- Reach Out and Read (ROR) is an evidence-based early literacy program for children aged 6 months-5 years based in a pediatric medical setting
- Adapting the ROR model for infants less than 6 months of age is a logical approach for primary care providers to promote literacy in early infancy and may improve the home literacy environment for young infants

Theory of Change



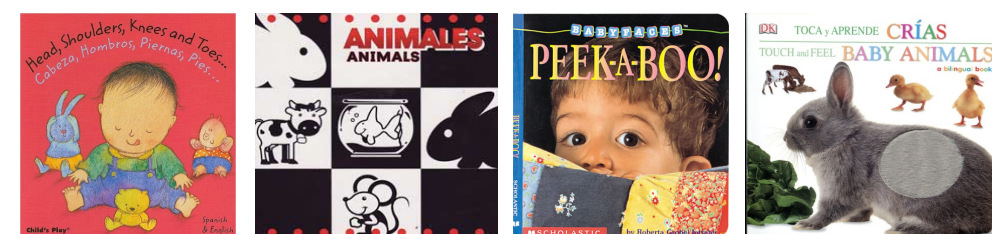
Objectives

This is a pilot study to adapt and implement the Reach Out and Read (ROR) model for infants <6 months of age

- Ensure feasibility in a resident clinic
- Evaluate practicality for larger study
- Evaluate impact on home literacy environment

Methods

- Study Design: non-randomized, quasi-experimental
- Location: outpatient pediatric training clinic
- Participants: all caregiver-infant dyads with an infant that was a patient at the clinic by the 2-month well visit
- Excluded: premature infants, teenage mothers, language other than English/Spanish
- Intervention: at well visit dyads received
 - New age appropriate book
 - Provider consultation promoting early literacy



- Two groups (based on age at enrollment, no overlap between groups):
 - 6-month-olds into baseline (ROR at 6-month visit only)
 - 1 or 2 month-olds into intervention group (ROR at newborn, 1- / 2-, 4-, 6-month visits)
- Outcomes: StimQ-I, ROR Parent Survey were measured via paper surveys at 6 months of age for both groups

Caregiver Demographics		
	Baseline (n=84) Mean or %	Intervention (n=107) Mean or %
Mother's Age at Delivery (years)	28.14	29.20
Maternal Gravidity	3.54	3.46
Maternal Parity	2.89	2.95
Caregiver Language - Spanish	52.4 %	54.2 %
Caregiver Education Level		
less than high school	10.0 %	14.4 %
high school/GED	52.9 %	58.9 %
some college/vocational school	30.0 %	21.1 %
4-year college degree or higher	7.1 %	5.6 %

Infant Demographics		
	Baseline (n=84) Mean or %	Intervention (n=107) Mean or %
Infant Gestational Age at Birth (weeks)	38.62	38.35
Infant Sex - Female	56.0 %	41.1%
Infant Race/Ethnicity		
White	10.7 %	4.6 %
Black	25.0 %	24.3 %
Hispanic	60.7 %	69.2 %
Other	3.6 %	1.9 %
Infant Insurance - Medicaid	96.4 %	97.2 %
Infant Age at Survey Completion (days)	200.4	201.4

Results

Completion Rates		
	Baseline (n = 84)	Intervention (n = 107)
Attended 6-mo well visit	100%	85%
Completed StimQ-I	94%	66%
Completed "ROR Parent Survey"	88%	65%

ROR Parent Survey - Implementation			
	Baseline % Yes	Intervention % Yes	p-value
Did the child receive a book during today's visit?	91.4	84.1	0.20
Did the medical provider talk to you about reading or looking at books with the child?	89.4	86.6	0.62
Is this the first time this child has received a book at the doctor's office?	73.9	4.3	<0.001

ROR Parent Survey – Outcomes		
About how often do you read or look at books with this child? (p=0.004)	Baseline n=71 (%)	Intervention n=70 (%)
Never	11.3	1.4
Several times per year	4.2	0.0
Several times per month	8.5	5.7
Once a week	21.1	20.0
Several times a week	35.2	47.1
Every day	19.7	25.7

ROR Parent Survey - Outcomes									
Do you think you will try any of these reading activities with this child?	No, I don't think so (%)		Maybe I might try this (%)		Yes, I will try this (%)		p-value		
	B	I	B	I	B	I			
Let the child turn the pages (n: B=73, I=69)	5.5	1.5	5.5	18.8	69.9	50.7	19.2	29.0	0.02
Make up stories about what is happening in the pictures (n: B=71, I=67)	2.8	9.0	7.0	11.9	74.7	40.3	15.5	38.8	<0.001
Help the child to identify shapes, colors, numbers, letters, or things in the pictures (n: B=71, I=67)	4.2	0.0	7.0	14.9	70.4	53.7	18.3	31.3	0.03
Read to the child at least 30 minutes every day (n: B=71, I=66)	0.0	0.0	11.3	15.2	70.4	40.9	18.3	43.9	0.002

StimQ-I			
	Baseline	Intervention	p-value
StimQ-I Total, Mean (SD)	23.7 (7.4)	27.2 (6.0)	0.003
Reading, Mean (SD)	7.5 (4.3)	9.8 (2.9)	<0.001
Number of Reading Days/Week, Median (IQR)	3.0 (1.0-5.0)	4.0 (3.0-5.0)	0.047
ALM, Mean (SD)	3.2 (1.5)	3.50 (1.6)	0.17
PIDA, Mean (SD)	4.7 (2.0)	4.9 (1.9)	0.52
PVR, Mean (SD)	8.4 (2.6)	9.0 (2.1)	0.16

Discussion

- Successfully implemented a ROR model for infants <6 month old in a resident clinic
- Positively impacted the home literacy environment and parenting practices regarding reading with young infants
 - More frequent book sharing
 - Increased engagement while book sharing

Limitations

- Non-randomized
- Some baseline participants had received a book in clinic prior to 6 month visit
- StimQ-I was a written response rather than a verbal survey
- Self report, possibility of response bias
- Survey completion rates, possibility of selection bias

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