Talwalkar JS, Fenick AM. Evaluation of a Case-Based Primary Care Pediatric Conference Curriculum. *J Grad Med Educ*. 2011;3(2):224-231.

Week 5

Literacy Development & Reach Out and Read

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> *I find television very educating. Every time someone turns on the set I go into the other room and read a book.*
>
> *—Groucho Marx*

Learning Objectives:

1. Identify the sequence of language and literacy development in young children
2. Understand the importance of evaluation of language and literacy in routine pediatric health supervision
3. Learn about the goals of Reach Out and Read
4. Investigate ways to effectively use Reach Out and Read to help parents foster acquisition of language and literacy skills in young children (especially in at-risk populations)
5. Learn about the resources available to help families with children with known or suspected disorders of language or reading

Primary Reference:

1. Grizzle KL, Simms MD. Early language development and language learning disabilities. Pediatrics in Review. 2005;26(8): 274-83. http://pedsinreview.aappublications.org/cgi/reprint/26/8/274

CASE ONE:

Chub E. Baby is a 6-month-old infant who presents for his well child visit. He appears healthy and is growing well. He rolled at 4 months, and can now almost sit by himself. He is about to start to crawl, according to his mother. He lives with his mother and grandmother in local low-income housing. His mother never finished high school and works as a waitress in a restaurant. During the day, his grandmother cares for him as well as two other children in the home. Chub's mother and grandmother want him to be as smart as possible, and ask what they can do to help.

1. What can you tell Chub's family about his language development? What should they expect in the months to come?

Communication skills develop from the interplay between many sensory and cognitive processes. Development of these skills requires not only verbal components, but also visual, social, and behavioral aspects, in order to perceive, interpret, and understand. Receptive and expressive language development proceeds in the context of gross motor, fine motor, and personal and social milestones, at a pace that may be highly variable from one child to another.

In general, at 6 months, Chub should be able to recognize his name, and begin to vocalize with screeching and babbling. He may have also developed differential cries to indicate different wants or needs. Over the next six months, he should start to recognize names of family members and familiar objects, and start to understand simple phrases such as "bye bye" and "peek a boo." At around 12 months of age he will begin to gesture or shake his head "yes" and "no" to indicate his wants, and start using simple words such as "mama" and "dada." **Review Table 1 in the Pediatrics in Review article with learners.**

Assessing language development in pediatric health supervision visits is crucial, as almost 10% of children will have some sort of language disorder, and anywhere from 50-80% of those that do will have persistent difficulty with language without appropriate support and intervention. Parents are the best

allies in assessing language development, as children are often not willing to demonstrate their language skills in an office setting and there is limited time.

2. What are the factors that put children like Chub at risk for poor language development?

Among the most important are an impoverished-language environment and auditory overload from sources such as television and radio which provide language exposure in a form that does not engage the child. It is not difficult to imagine how children from urban, impoverished families, without family mealtimes or routine bedtimes and with increased indiscriminate television watching, may be at a disadvantage from a language standpoint. Importantly, home reading routines have been found to be an important predictor of children's oral language skills. Exposure to books at home is directly correlated with development of vocabulary, listening comprehension, and reading skills. Flores and colleagues demonstrated that minority children were less likely to engage in home activities known to improve future language development and academic performance, such as family meals, limited television time, and exposure to books.

The 2000 National Survey of Early Childhood Health (NSECH), a telephone survey of 2000 parents of children aged 4-35 months that asked parents about their home reading aloud practices, showed that only 52% of young children were reportedly read to on a daily basis by a parent or other adult in the home. Significant predictors of daily reading included older child age, maternal education greater than high school, greater number of children's books in the home, and discussion of reading by the pediatric care provider. Maternal full-time work status (due to less time availability), black race, Hispanic ethnicity, Spanish-language dominant parents, and >1 child in the household were shown to predict lower odds of daily reading.

Additionally, it is important to consider that parental literacy may play a role in the quality of language interactions with children and, undoubtedly, reading to children in the home. It is important for pediatric providers to assess these risk factors during routine health supervision visits to determine appropriate interventions for the ones that are modifiable.

CASE continued:

You hand baby Chub E. a copy of "Good Night Moon" and his family looks puzzled. Chub E. looks at the book and reaches to take it from your hands. As he then proceeds to drool all over the book, his family thanks you and begins to pack up his things to leave.

3. How should you approach the discussion of early childhood reading with Chub's family? What are the important points to emphasize?

Reach Out and Read (ROR) is a relatively simple intervention program that is particularly important in urban centers where a larger proportion of the population may be identified as high risk. It is based on the concept of using age-appropriate book distribution to open dialogue between providers and caregivers on the importance of reading to children at home on a daily basis. It is divided into three parts: book distribution, anticipatory guidance (by providers), and modeling of reading behavior (by staff and volunteers in the waiting area).

ROR begins at 6 months of age when children are able to respond to show parents that reading is appreciated and to sit and demonstrate book-handling skills (reaching, grabbing, chewing books). As in this case, it is important to ensure that parents know what to expect. A 6-month-old should look at pictures, vocalize and pat the book, and relate most to pictures of faces, especially those of other babies. It is important that the baby is held comfortably, and that parents learn to read the baby's cues for "more" and "stop." Parents should point and name pictures, and not expect the baby to complete a book page by page, or listen to a story.

The NSECH survey discussed earlier reported that approximately 37% of parents stated that their pediatric provider had not discussed reading with them, and 47% of those indicated they would have found such a discussion helpful.

Where ROR is not already in place, the website (see Resources) provides information on how to start and fund a program. Asking staff and families to donate new or used books to the clinic, or even asking parents to bring in their child's favorite book to the visit can serve as a substitute.

4. What is the evidence supporting early childhood reading programs?

ROR has always been widely supported by providers, office staff, and parents. However, it adds another element to an already crowded well-child visit, and requires an investment of time and finances from the providers' offices. Previously, informal parent report surveys had been the extent of evidence for ROR. In the past decade, larger, better designed studies (i.e. randomized controlled trials and trials that have included specific language assessments in children receiving literacy intervention), have added to the repertoire of evidence in support for ROR. Several studies have correlated book distribution through ROR with the frequency of parent-child reading interactions at home and the reporting of reading at home as the favorite parent-child activity. Additionally, studies in low-income populations have also shown improved expressive and receptive language scores in children 18-25 months receiving ROR intervention. Higher scores on tests of expressive language vocabulary have been noted in children with as little as 3 months of ROR and regular reading exposure.

CASE continued:

It is time for Chub E.'s 24-month visit. His mother reports he is doing "fine." On more specific questioning, you uncover that he only uses 5-6 words, and prefers to point and gesture to get the things he wants. His mom says he babbles at home, although he is silent in the office. He interacts well, and appears to understand some simple commands from his mother.

5. What additional history do you want to obtain? What are the possible etiologies for Chub's failure to speak?

The differential diagnosis for late talking is broad and includes hearing impairment, mental retardation, pervasive developmental disorder/autism, oral motor dysfunction, maturational delay, impoverished language environment, and specific language impairments (discussed below). In order to establish that Chub has a specific language disorder, other causes need to be ruled out. A history of recurrent ear infections or signs of poor hearing at home are important to obtain, although almost any child with a disorder of speech or language should receive a hearing test even without a positive history. Assessing other components of development – asking what the baby is able to do in the domains of gross motor, fine motor, personal and social skills – is important to determine the breadth of the child's developmental delay. Questions about stereotypic mannerisms and impairments in social interactions are important to rule out autism spectrum disorders. A history of dysphagia, poor feeding, and excessive drooling may provide evidence of oral motor dysfunction. An impoverished language environment may be a contributing factor rather than a sole cause, and this should be ascertained by careful history.

Specific language impairments are present when there is an isolated delay in expressive language, with normal receptive language. These children are often called "familial late talkers," as their family history, especially paternal history, is generally positive for the same. These children should be carefully evaluated by history of the child's ability to follow commands (two-step, at 24 months), gesturing ability, imitation, goal-oriented activities, and pretend play as these receptive language and social skills are pre-requisites for expressive language. While children who are familial late talkers have an excellent prognosis for catch up speech development, there should be a very low threshold for referral for speech and language services.

6. What guidance you would give families along with their Reach Out and Read recommended books at the following visits?

(a) 12 months

The child should carry the book, hold it with help, and turn several pages at a time. He or she should point to the pictures, and make sounds to "label" them. The child may be able to point to pictures in response to prompts, and ask the parent to read a particular book. Parents can provide support by letting the child control the reading activity, being comfortable with brief periods of reading at a time, and avoiding telling stories in favor of pointing games.

(b) 24 months

The child can turn pages one page at a time and can carry the book by him or herself. The child may name familiar pictures or fill in words in familiar stories. He or she may even pretend to read to dolls or stuffed animals. Parents can provide support by relating stories to the child's experiences, and letting the child have time to fill in words, complete sentences or tell whole parts of the story. If reading is not already included in the regular bedtime routine, parents can now incorporate it.

(c) 36 months

The child can begin with paper pages, and turn to favorite pictures of parts of stories. He or she can coordinate pictures with the stories and recite whole phrases or stories. Parents should be willing to read the same story over and over. They should continue to use books in the bedtime routine, and they can start to encourage the child to draw pictures of the stories.

(d) 48 months

Book handling is mature. The child can listen to a longer story, retell a familiar story, move his or her finger along with the text and even start to identify letters. Parents can encourage letter recognition, support writing and drawing, and allow the child to tell the story.

Additional References:

1. Flores G, et al. Does disadvantage start at home? Archives of Pediatric and Adolescent Medicine. 2005;159: 158-65.
2. Glascoe F. Early detection of pediatric developmental and behavioral problems. Pediatrics in Review. 2001;21(8): 272-80.
3. High P, et al. Literacy promotion in primary care pediatrics: can we make a difference? Pediatrics. 2000;105: 927-34.
4. Klass P. Pediatrics by the book: pediatricians and literacy promotion. Pediatrics. 2002;110: 989-95.
5. Meldensohn A, et al. Effect of clinic based literacy intervention in inner-city preschool children. Pediatrics. 2001;107(1): 130-4
6. US Preventive Services Task Force. Screening for speech and language delay in preschool children: recommendation statement. Pediatrics. 2006;117(2): 497-501.
7. Wegner L. Screening for speech and language delay in preschool children: more answers are needed. Pediatrics. 2006;117(2): 533-534.
8. Zuckerman B. Promoting early literacy in pediatric practice: twenty years of Reach Out and Read. Pediatrics. 2009;124: 1660-1665.

Resources:

1. Early Intervention Programs, by state. www.birth23.org/Programs/OtherStates.asp
2. Reach Out and Read program website. www.reachoutandread.org