Under-referrals for Developmental Delays by Pediatricians: A Systematic Review

Molly Harmon, Meghan Fisher, MA, and Brent McBride, PhD
Department of Human and Community Development, College of Agricultural, Consumer and Environmental Sciences
University of Illinois at Urbana-Champaign

Introduction

- 12% to 16% of children have a developmental disorder (Guerners et al., 2013)
- There is an increase of under-referrals, resulting in many children not receiving services (Sines, Feudtner, McLaughlin, Dror & Williams, 2013)
- The American Academy of Pediatrics (AAP) recommends:
  - Developmental screenings be conducted at 9, 18, 24, or 30 month well care visits
  - Screenings be conducted when concerns are raised (Arunyanart et al., 2012)
  - Developmental surveillance be used at every well-child visit (Nita et al., 2013)
- However, less than 50% of pediatricians report using standardized developmental screenings (Guerners et al., 2013)

Purpose

The purpose of this study is to systematically review the literature on developmental delays in early childhood and understand the under-referral rate in pediatric settings.

Method

Inclusion Criteria:
- Publication between 1990 and October 2014
- Data for children aged 6 years or younger
- English text
- Focus on screenings in a pediatric setting

Exclusion Criteria:
- Sample age older than 6 years
- Early Intervention Services
- Requirements/legislation
- Specific developmental screening validity evaluations

Results

The top four themes emerging were:
1. Pediatricians use of developmental screenings (n=13)
2. Issues with using standardized developmental screenings in a pediatric setting (n=12)
3. Parental role in developmental screenings (n=20)
4. Barriers to conducting developmental screenings

Pediatricians Use of Developmental Screenings

- 50% of pediatricians implement developmental screenings (Ryd, Shevell, Marpenn & Doreau, 2003)
- 17.8% of pediatricians reported that they follow the American Academy of Pediatrics (AAP) recommendations (Arunyanart et al., 2012)
- 30% to 45% of pediatricians reported inconsistency in following AAP recommended visits or when concerns were raised (Arunyanart et al., 2012)
- Physicians reported using standardized screenings in less than half of patient visits, or never (Arunyanart et al., 2012)

Barriers to Conducting Developmental Screenings

- However, in other surveys, lack of knowledge and lack of confidence were considered significant barriers. (Aren, Berry, Brenner, Chansky, & McK, 2010; McCartney & Ryeland, 2011)
- In a AAP survey, 50% of pediatricians implement developmental screenings (n=13)
- Barriers to conducting developmental screenings in a pediatric setting alone were slower to be identified than children that have developmental delays
- In an AAP survey, pediatricians reported the following barriers when screening for developmental delays (Arunyanart et al., 2012)
  - **Physicians reported using standardized screenings in less than half of patient visits, or never.**

Most Common Screenings Used

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEDS</td>
<td>45%</td>
</tr>
<tr>
<td>Ages &amp; Stages Questionnaire</td>
<td>40%</td>
</tr>
<tr>
<td>Denver-II</td>
<td>35%</td>
</tr>
<tr>
<td>Other</td>
<td>10%</td>
</tr>
</tbody>
</table>

Pediatricians Use of Standardized Screenings at AAP Recommended Months

- Developmental surveillance is the most common strategy used by pediatricians (Ryd, Shevell, Marpenn & Doreau, 2003)
- Developmental surveillance is especially useful for children at-risk
- Includes obtaining a developmental history, utilizing parental concerns, keeping track of observations, and discussing concerns with relevant professionals
- The "wait and see" approach is most commonly used as concerns arise
- Missed opportunities for referrals increase when only using developmental surveillance
- Surveillance alone would have missed 45% of children that have developmental delays (McLaughlin et al., 2003)
- Children who received developmental surveillance alone were slower to be identified than children that received both developmental surveillance and developmental screenings (Guerners et al., 2013)
- Developmental surveillance should be used throughout childhood, but in combination with screenings (Nita et al., 2013)

Using Developmental Surveillance

- Developmental Surveillance helps resolve the time and cost barrier
- Change developmental trajectory (Gosse, Darlent & Colgen, 2011)
- Increase likelihood of successful future (Simmons-Morton et al., 2013)
- Increase of high school graduation rates and decrease in crime rate (Kendall, Kilmann & Carone, 2000)
- Early Intervention Services Offered
  - Child Specific developmental services
  - Trainings and services that support families
  - Give additional information regarding schools, therapy, plans, etc.
  - Good investment
- Benefits of early detection for families
  - Having information about child's development (Shevell et al., 2005)
  - Early Intervention services and support
  - Detecting delays early can help improve child's development (Cheek & Dror, 2011)
- Amendment to Developmental Surveillance
  - Despite established recommendations by AAP, pediatricians are not following these recommendations for conducting developmental screenings
  - Attention needs to be placed on how to assist pediatricians in overcoming barriers
  - Routine visits with a pediatrician are possible the only opportunity for children to be detected for developmental delays and for families to receive resources on obtaining Early Intervention services
  - Early detection and services give support, services, and trainings to families
  - Collaboration between pediatricians and parents can help detect developmental delays earlier and reduce the amount of under-referrals
  - Parental questionnaires and concerns are as reliable as standardized screening scores

Conclusion

- Benefits of early detection for families
- Early Intervention services and support
- Change developmental trajectory
- Increase likelihood of successful future
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