



Case Study:

IPP Team Helps 6-Year-Old With Down Syndrome Improve Communication Skills

SIG 1: Language Learning and Education

Summary

The parents of a 6-year-old girl with Down syndrome consulted an IPP team to get help with their daughter’s communication skills. The IPP team evaluated the girl, made recommendations, and helped the family purchase an augmentative and alternative communication (AAC) device to use at home. After 4 months, the family reported that the device was helping with communication.

Patient Info



ANGELA
6-YEAR OLD

Current Diagnosis: Down Syndrome; Language Disorder; Speech Articulation Disorder; Dysphagia; Conductive Hearing Loss

Meet The Team



Audiologist



Occupational therapist (OT)



Physical therapist (PT)



Hospital-based SLP (team facilitator)



School-based SLP



Pediatric neurologist



Spanish language interpreter



Certified medical assistant (CMA)



Family



Patient

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Background

Angela is a 6-year-old girl with Down syndrome. She has a complex health history, which included dysphagia (G-tube dependent) and conductive hearing loss. She used a bone conduction hearing aid (the BAHA[®] Bone Conduction Implant System). Angela is mostly nonverbal and communicates with word approximations, gestures, and signs.

At school, Angela has an individualized education program (IEP) and receives speech-language pathology, physical therapy, and occupational therapy services. Her parents reported that she uses a device to communicate at school, but at the time of their report, they did not have one at home. Angela's school program was conducted in English. Her father is bilingual (Spanish-English), but her mother speaks only Spanish. Her parents reported that their main concern was regarding Angela's communication skills. They specifically asked when or if she would learn to talk.

The initial evaluation was part of Angela's semi-yearly follow-up meeting at an interdisciplinary/IPP Down syndrome clinic at a local children's hospital. This clinic had followed Angela since she was 1 year old. Her last evaluation in this clinic was 2 years ago.

How They Collaborated

At the initial IPP team meeting, with the hospital-based SLP serving as the team facilitator, the group discussed the case and each member's role. For their initial assessment of Angela's condition, all members decided to evaluate her on the same day.

At Angela's appointment, the SLP assessed receptive and expressive language, speech sound production, and social communication skills. The audiologist looked into her speech perception with and without her hearing aid. The OT assessed Angela's visual motor integration, sensory processing, neuromotor, upper extremity skills, and participation in activities of daily living. The PT evaluated her gross motor development, gait, and neuromotor functioning. The pediatric neurologist reviewed her medical history and did a physical exam. The CMA took Angela's weight and measurements, and the Spanish language interpreter was present to help answer questions from Angela's family.

During her assessment, Angela was playful and silly. She demonstrated communicative intent and engagement, communication with vocalizations, word approximations, facial expressions, and pantomimes. She used more than 25 American Sign Language (ASL) signs, which she learned at school. Her parents, who understood only about five of the signs, frequently missed the details of her communication attempts. Angela initiated communication frequently and responded accurately to simple directions in both English and Spanish. She demonstrated a restricted speech sound inventory with a limited variety of word shapes. Her parents reported that she used picture symbols and a communication device at school, but they did not use these at home.

Following the assessment, the team regrouped to share and discuss the evaluation results. The SLP advised the team that results of the communication evaluation indicated a severe expressive and receptive language disorder and a severe speech articulation disorder.

The audiologist reported that, with her hearing aid, Angela's speech sound perception was accurate in the 30-40 dB range. The OT's evaluation revealed hypotonia, deficits in visual motor integration, decreased independence with self-care skills, and decreased oral motor skills. The OT noted that Angela's difficulty following complex oral directions may have impacted her performance on some tasks during her assessment. The PT's evaluation revealed impairments in gross motor skills and hypotonia. Angela presented with a left head-tilt that her parents were previously told was related to visual impairments. The pediatric neurologist found that Angela was in good general health given her complex medical issues.

How They Collaborated continued

After discussing the results of the evaluations, the team provided Angela's parents with additional resources, such as the contact information for a group of Spanish-speaking families with children who have disabilities. (Angela's parents said that they were interested in meeting other families who have children with Down syndrome.) The SLP recommended the use of a speech-generating device with picture symbols at both home and school. This would help address the language differences and Angela's restricted speech sound inventory. The IPP team recommended that Angela continue with her current school program under her IEP and return to the clinic in 1 year for a follow-up appointment.

Following this visit, the hospital-based SLP reached out to the school-based SLP regarding Angela's use of a communication device at school. The hospital had a grant to help families purchase communication devices. Angela's family used the grant funding to buy an AAC device, and the school-based SLP helped the family set it up at their home.

Outcome

Four months after the assessment, the hospital-based SLP checked in with Angela's family. They reported that Angela was learning to use the AAC device at home, but it was "easier" for her to communicate vocally. However, Angela would use the device when prompted. On those occasions, it enabled her to communicate in one- to two-word utterances to clarify her vocalizations and gestures and respond to simple questions. Her father reported that the picture symbols on the device enabled his wife to understand more of what his daughter told her.

The family also reported that they had attended a meeting of the Spanish-speaking support group and met another family who has a child with Down syndrome. They also reported that Angela had an appointment regarding her neck tilt, which increased her likelihood of developing scoliosis.

With the family's permission, the hospital-based SLP checked in with the school-based SLP, who reported that Angela used the AAC device at school and home. The school placed Angela in a group with other children who use AAC devices to help her use the device more frequently.

Ongoing Collaboration

Angela will return to the Down syndrome clinic in 1 year for her regular follow-up visit. In the meantime, the IPP team developed a follow-up plan that included bi-weekly conference calls. They also planned to meet in person at least quarterly.

Case Rubric:

IPP Team Helps 6-Year-Old With Down Syndrome Improve Communication Skills

SIG 1: Language Learning and Education

Patient Info



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Current Diagnosis:
Down Syndrome;
Language Disorder;
Speech Articulation
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Conductive Hearing Loss

Meet The Team



Audiologist
(Dr.D)



Occupational therapist (OT)
(Ms.C)



Physical therapist (PT)
(Ms.M)



Hospital-based SLP
(team facilitator)
(Dr.E)



School-based SLP
(Ms.C)



Pediatric neurologist
(Dr.Q)



Spanish language interpreter
(Mr.R)



Certified medical assistant (CMA)
(Ms.A)



Family
(Mr.G/Mrs.G)



Patient

Continue for more [↓](#)

History and Concerns

(Share key information gathered from team)

Angela is a 6-year-old girl who has Down Syndrome. **Angela** has a complex health history which includes dysphagia (G-tube dependent) and conductive hearing loss. She currently uses a bone conduction hearing aid (BAHA). **Angela** is mostly non-verbal and communicates with word approximations, gestures and signs. **Angela** has an IEP and is in a life skills classroom with adapted PE. She receives SLP, PT and OT services. Her parents report that she uses a device to communicate at school but they do not have one at home. **Angela** has received special education services since birth. **Angela's** family is Spanish-speaking. Her father is bilingual (Spanish-English) and her mother speaks only Spanish but understands some English. **Angela's** school program is in English. **Angela's** parents reported that their main concern today is regarding her communication skills. They specifically asked when or if she will learn to talk.

Assessment Plan

(Determine roles/responsibilities for evaluation)

The initial evaluation was part of Angela's semi-yearly follow up in an interdisciplinary/IPP Down Syndrome Clinic at a local children's hospital. She has been followed by this clinic since she was a year old. Her last evaluation in this clinic was 2 years ago. The IPP team included an Audiologist, OT, PT, SLP, Pediatric Neurologist, Spanish Language Interpreter and Certified Medical Assistant (CMA). Dr. E. served as team facilitator and opened a discussion about the importance of mutual trust and respect among the team. All team members agreed with this foundational IPP process.

All providers assessed Angela on the same day. The team works together weekly, and roles and communication channels are well-established. In the morning of the evaluation, the team met to discuss the case and specific areas of focus were planned. All team members approved of their roles and responsibilities. The SLP suggested the need for a cognitive re-evaluation. Several team members disagreed, reasoning that Angela's cognitive profile has remained stable over time. A lengthy discussion ensued about the need/potential benefit of the assessment. The team reached consensus that a cognitive evaluation would be considered at Angela's next evaluation.

Assessment Plan

(Determine roles/
responsibilities for
evaluation)

Based on the plan, the providers assessed the following areas:



SLP – receptive and expressive language, speech sound production, social communication skills



Audiology – bone conduction and air conduction thresholds, speech perception with and without BAHA, otoscopy, tympanometry



OT – visual motor integration, sensory processing, neuromotor, upper extremity skills, participation in daily activities



PT – gross motor development, gait, neuromotor



Pediatric Neurology – review of medical history, review of systems, physical exam



CMA – weight and measurement



Spanish Language Interpreter – interpreted for assessment team and family

Assessment Results

(Summarize key diagnostic
results)



SLP – Results of the communication evaluation indicated a severe expressive and receptive language disorder and a severe speech articulation disorder. Angela was playful and silly throughout the session, giggling frequently. She demonstrated communicative intent and engagement. She communicates with vocalizations, word approximations, signs, facial expressions, descriptive gestures and elaborate pantomimes (acting out scenes). She was observed to use over 25 ASL signs. Her parents report that she learned these at school and they understand about 5 of them. Because her parents do not understand sign language, they frequently do not know the details of her communication attempts (e.g., colors). Angela initiated communication frequently and responded accurately to simple directions in both English and Spanish. She jargoned frequently, using

Assessment Results

(Summarize key diagnostic results)

mostly vowels. She demonstrated a restricted speech sound inventory with limited variety of word shapes. Her parents reported that she uses pictures symbols and a communication device at school but they do not use these at home.



Audiology – Angela demonstrated poor speech sound perception without her hearing aid. With her BAHA, speech sound perception was accurate in the 30-40 dB range.



OT – Evaluation revealed hypotonia, deficits in visual motor integration, decreased independence with self-care skills, decreased oral motor skills (no chewing or biting) and delays in fine motor skills. The OT noted that Angela’s difficulty following complex oral directions may have impacted her performance on some tasks during her assessment.



PT – Evaluation revealed impairments in gross motor skills and hypotonia. Angela presents with a left head tilt that her parents were previously told was related to visual impairments. This tilt in combination with her hypotonia places Angela at risk for scoliosis.



Pediatric Neurology – Angela is in good general health given her complex medical issues. She has small stature but her weight is adequate for her height. She continues to be fed via g-tube and continued follow up in the feeding clinic at this hospital was recommended. Her parents have not met other families who have children with Down Syndrome and indicated interest in this today.

IPP Treatment Plan

(Discuss, reflect, and modify recommendations to develop a coordinated plan)

The team agreed on the following recommendations:

1. Angela should continue with her current school program under her IEP. She is demonstrating progress in all areas except speech and language development.
2. The family should continue with follow up in the Feeding Clinic and other appropriate medical providers (e.g., cardiology).

IPP Treatment Plan

(Discuss, reflect, and modify recommendations to develop a coordinated plan)

3. The family was given information on the local Down Syndrome Association and a local group of Spanish-speaking families with children with disabilities and encouraged to join both.
4. The OT gave specific recommendations for increasing Angela's independence in self-care skills and handwriting.
5. The PT recommended follow up at Shriners Hospital for prevention of scoliosis. Continued monitoring of her gross motor skills was also recommended.
6. The SLP recommended the use of a speech generating device with picture symbols be used at both home and school. This recommendation will address the
7. Language differences that exist among the school, Angela and her family (Spanish, English, sign language) in addition to Angela's restricted speech sound inventory
8. Angela should return to this clinic for continued follow up in 1 year.

Following this visit, the hospital-based SLP gained permission from the family to contact the school team regarding Angela's current use of a communication device at school. The hospital has a grant to assist families in purchasing communication devices and/or communication applications for tablets. The SLP consulted with the school-based SLP to purchase a device for the family to use at home. The school-based SLP assisted the family in setting up the device for home use.

Treatment Outcomes

(Discuss results of treatment)

Each team member collected session-to-session data, with quarterly team reports. Four months after the assessment, the hospital-based SLP checked in with the family when they were in the hospital for a visit to the Feeding Clinic.

Treatment Outcomes

(Discuss results of treatment)

- The family reported that Angela was learning to use the device at home, but it was “easier” for her to communicate vocally; Angela tended to use the device only when prompted.
- According to the family, when prompted, Angela uses the device to communicate in one- to two-word utterances to clarify her vocalizations and gestures and respond to simple questions.
- Her father reported that because of the picture symbols on the device, his wife could understand more of what his daughter told her.
- The family also reported that they had attended one meeting of the Spanish-speaking support group and had met another family who has a child with Down Syndrome. This family shared information with them about other events in their local area that they were hoping to attend. They also reported that Angela has an appointment at Shriners hospital in a few weeks regarding her neck tilt and risk for scoliosis.

With the family’s permission, the hospital-based SLP checked in with the school-based SLP who reported that Angela was using the device at school in a similar manner to her home use. The school has placed Angela in a group with other children who use AAC devices with the goal of her using her device more frequently.

Team Follow-Up

(Determine meetings & communication plan)

Angela will return to the Down Syndrome Clinic in 1 year for her regular follow up.

She will continue in her school program with annual progress reports and 3 year re-evaluations.

The team developed a follow-up plan that included bi-weekly conference calls with the entire IPP team. Face-to-face meetings were planned to occur quarterly or more frequently is needed.

Acknowledgement

ASHA extends its gratitude to the subject matter expert(s) who were involved in the development of the original version of this IPP case:

Amy Costanza-Smith, PhD, CCC-SLP
Special Interest Group 1 (SIG 1): Language Learning and Education

Citations

American Speech-Language-Hearing Association. (n.d.). An IPP team helps 6-year-old with down syndrome improve communication skills. <https://www.asha.org/practice/ipe-ipp/case-studies/case-study-11/>

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