



**The Clinical Bulletin
of the
Developmental Disabilities Program**

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Annual Developmental Disabilities Spring CPD

On April 13, 2016, the Developmental Disabilities Program in the Department of Psychiatry at the Schulich School of Medicine & Dentistry, Western University, held their 14th Annual Developmental Disabilities Spring Continuing Professional Development day. The event featured three invited speakers;

Joan Gardiner, Speech Language Pathologist, who spoke about Communication Disorders in people with Developmental Disabilities.

Heather Bailey, Occupational Therapist, who spoke about Sensory Impairments in people with Developmental Disabilities.

Stephanie Gratton, from Developmental Services Ontario (DSO), who spoke about the role of the DSO, and how to navigate the DSO system.

In our next three Clinical Bulletin Issues, we will feature summaries of each of the presentations.

In this issue, below, find a summary of the presentation “Communication Disorders”, given by Joan Gardiner, Speech Language Pathologist, Child and Parent Resource Institute, London Ontario, and Lecturer in the Developmental Disabilities Program, Department of Psychiatry at the Schulich School of Medicine & Dentistry, Western University.

Communication Disorders

Joan Gardiner, M.Cl.Sc., S-LP (C), Reg. CASLPO

Note: The content of this review is not original to this author. Rather, all of the information provided below was taken from a review of websites relevant to the field of speech-language pathology, including the American Speech-Language-Hearing Association (asha.org) and Speech-Language and Audiology Canada (SAC-OAC.ca), and articles reviewed and cited on these websites.

In this province, speech-language pathologists are autonomous clinicians, who possess at least a Masters Level of Education and are regulated health professionals under the College of Audiologists and Speech-Language Pathologists of Ontario (CASLPO). Speech-language pathologists work in the area of communication and communication disorders.

To consider fully the field of communication disorders, it is important to understand certain terms, including communication, language and speech. While these terms are often used interchangeably in casual conversation, the reality is that they refer to different things. It is important to be aware that the terms communication, language and speech are different than one another because disorders can occur in each of them. Communication is a broad, overarching term that refers to any exchange of information between at least two people. This can occur with words (i.e., verbally) or without words (i.e., non-verbally) and it might occur purposefully or unintentionally. Language, on the other hand, is a very specific system of communication. It is a rule governed symbol system that has been developed as a way of sending messages to another person. Language involves conventional symbols (i.e., sounds, words) that are organized and combined with one another in rule-governed ways (i.e., grammar). There are many languages in our world (e.g., English, Urdu, American Sign Language). Lastly, speech is a motor process by which we produce the oral sounds that are used for language. It is an expressive production, including articulation, fluency, and resonance and voice.

In the DSM-5, there are seven categories under the heading of Neurodevelopmental Disorders; Communication Disorders is one. In this organization, the DSM-5 presents communication disorders as being distinct from other neurodevelopmental disorders, such as Autism Spectrum Disorder (ASD), Intellectual Disabilities (ID), and Attention Deficit/ Hyperactivity Disorder (ADHD). While it is certainly true that communication disorders can and do occur in the absence of other neurodevelopmental disabilities, it is also important to note that problems in the area of communication, language and speech, can co-occur in other disorder areas. As such, the work of a speech-language pathologist often includes not only those persons who have a specific and isolated communication disorder but also may include working with individuals with other developmental disabilities.

There are five types of communication disorders identified in the DSM-5. These include: Language Disorder; Speech Sound Disorder; Child-Onset Fluency Disorder (stuttering); Social (Pragmatic) Communication Disorder; and Unspecified Communication Disorder. Some of these disorders present in more obvious ways than others. Each one though, can affect the communication of a person

significantly, and as such, each needs to be understood in terms of its presenting characteristics and requirements for intervention.

(Spoken) Language Disorders

For most communicators, language develops effortlessly; so, we give little attention to this system of communication that allows us to interact effectively within our world. Importantly however, when language does not develop as it should, one needs to consider the components of this system carefully. This examination allows us to identify where problems occur and subsequently, to offer intervention accordingly. Expressive language refers to an individual's ability to send a linguistic message to another person. Receptive language refers to an individual's ability to receive and understand a linguistic message. Ideally, one's receptive skills and expressive skills for language should be consistent with one another. If differences occur between them, a problem exists. Also, in language, one needs to consider three areas of skill that are required for efficient use of this system. These skill areas include the form of language (including phonology, morphology, and syntax), the content of language (semantics) and the use of language (pragmatics).

Due to the way that the DSM-5 organizes communication disorders as a category, it makes sense to consider the phonology (i.e., the sounds of a language) component of language in regard to speech sound disorder and to consider the pragmatics (i.e., social use of language) component of language in regard to social communication disorder. As such, when considering language disorders specifically, the focus is placed primarily on the areas of morphology (i.e., smallest units of meaning), syntax (i.e., grammar) and semantics (i.e., meaning).

There are many challenges that exist in language if and when an individual has problems in the areas of *form* (including morphology and syntax). While typical language acquisition follows a well charted developmental pattern, red flags should be raised when any of the following characteristics are noted outside of age-based expectations (note, this list is not exhaustive): delayed acquisition of word combinations; shorter than expected utterances; grammatical errors (e.g., incorrect verb tenses, lack of function words such as "a" and "the", incorrect use of pronouns); difficulty evaluating the grammatically of language and/or correcting grammatical errors when they occur; difficulty understanding and producing complex sentences (e.g., with clauses); and difficulty understanding or producing longer segments of language, such as stories.

Additionally, in the area of *content* of language, there also are well established developmental norms for typical skill acquisition. Concerns should be raised if and when any of the following characteristics are noted (again, this list is not exhaustive): late or slow acquisition of words; difficulty learning abstract words, such as verbs; difficulty learning new words quickly; problems with word finding; excessive use of filler words, such as "er" and "um" while formulating utterances; difficulty understanding questions or following directions, difficulty understanding non-literal language, such as expressions; challenges with paraphrasing; and poor understanding of stories or other long segments of language.

Often in the past, when children exhibited concerns in the area of language development, a "wait and see" approach was recommended. For some, there has been a belief (particularly regarding boys) that parents worry too soon and that language is likely to catch up on its own. The reality is however, that typical language development, for girls and boys, should occur within an average range. Although girls might be more likely to fall toward the beginning of the range and boys might be more likely to fall

toward the end of the range, everyone should develop skills according to well documented milestones. As such, should any child's language development occur at a rate that is behind what is considered to be typical, a referral to a speech-language pathologist is recommended. Only approximately forty to fifty percent of "late talkers" are likely to catch up without some type of intervention. Additionally, other risk factors that should be noted in regard to language development include that there is a greater risk overall: for boys to have language disorders as compared to girls (with estimates of approximately 2:1 or even 3:1), and for twins (especially boys) to have language disorders. Interestingly, according to research, children who are raised in bilingual homes are no more or less likely than children being raised in monolingual homes to have a language disorder. If a language disorder is present for children learning two languages, the challenges will present generally equally in both languages.

Language disorders are reported to affect between five and ten percent of children. They are known to be highly heritable, with up to a twenty to forty percent incidence of problems in families with a history of language disorders. Language disorders that include a receptive component have a poorer prognosis over time than those that include only an expressive component. Also, language difficulties can become apparent at different times across childhood, depending on what components of language are affected.

Spoken language disorders are often related to later reading and writing abilities. Also, they are sometimes associated with psychiatric disorders (i.e., it has been estimated that up to forty percent of Canadian children with psychiatric disorders also have some type of language disorder). Additionally, children with language disorders may experience social/emotional and/or behaviour problems that are secondary to their language difficulties. These problems occur due to the impact of the language disorder on the child's self-perception, challenges with academics, and/or difficulties with peer relationships resulting from weak language abilities.

Concerns about language disorders should be raised when a child is not meeting expected developmental milestones for language acquisition. Also, the possibility of an undetected language disorder should be considered if a child is struggling at school without apparent reason or if he or she is demonstrating problem behaviour without an obvious other explanation. In Ontario, in the preschool years, referrals should be directed to the local Preschool Speech and Language Program (named differently, depending on the area of the province in which a child lives). During the school-aged years, referrals should be directed by educators to the speech-language pathology services of local School Boards. Also, private practice speech-language pathologists exist in many communities. The cost of private services though, might be challenging for some families.

Speech Sound Disorder

The production of the sounds of speech is a complicated process. It requires signals from the brain to be sent to the articulators (i.e., lips, tongue, palate, etc.) in a way that results in a rapid and highly coordinated sequence of movements to make speech sounds. In typical development, the emergence of speech sounds occurs in a predictable pattern (developmental milestone charts are readily available) and, although some sounds do not emerge yet by the age of three years, a child of this age should be at least ninety percent intelligible to an unfamiliar listener.

When speech sound development does not occur as expected however, red flags of concern should be raised. These red flags may include overall delays in the acquisition of speech sounds, immature syllable patterns, and simplification patterns (such as deleting sounds from words or substituting sounds within

words) that are used beyond the ages at which they would be expected. Speech sound errors might be predictable and patterned, as described by the term phonological disorder (i.e., referring to delays in the acquisition of certain speech sounds and overuse of simplification patterns). Alternatively, speech sound errors might be inconsistent and unpredictable, as described by the terms apraxia or dyspraxia (i.e., referring to a motor sequencing problem affecting signals from the brain to the articulators).

As with the area of language disorders, concerns about speech sound disorders should be brought to the attention of a speech-language pathologist. In the preschool years, a referral can be submitted to the local Preschool Speech and Language Program. In the school-aged years, referrals are initiated to the School Board speech-language pathology service but then might be directed by the School Board speech-language pathologist to School Health Support Services. Again, private speech-language pathology services also can be considered as an option for assessment and/or intervention.

Child Onset Fluency Disorder (Stuttering)

Fluency of speech is defined by a natural and smooth flow of speech production. When this expected and even flow of speech is disrupted though (e.g., changes in the durations, rate and/or rhythm of speech) to a degree that is not typical or expected, a fluency disorder should be considered.

In typical early speech and language development, a naturally occurring period of dysfluency is not uncommon. For girls, this period is most likely to occur between the ages of approximately two to three years; for boys, this period is most likely to occur between the ages of three to four years. Usually, this period of dysfluency ends without specific intervention. During this time, caregivers and communication partners are encouraged not to draw specific attention to the dysfluent speech pattern and to focus on the content of the child's message rather than its production.

For some children however, dysfluencies persist past the typical developmental period. While it is not known why some people (approximately one percent of the population) continue to be dysfluent throughout their lives, it is believed that there is likely some genetic influence for this communication disorder. Risk factors for ongoing dysfluency include a family history of stuttering, coexisting speech and language difficulties, and concerns and fears of the parents or the child him/herself.

Most intervention approaches for dysfluency are behavioural in nature. To access intervention, if and when a dysfluent speech pattern persists past a six month period during the preschool years, a speech-language pathologist should be consulted via either the Preschool Speech and Language Program or the School Board.

Social (Pragmatic) Communication Disorder

The category of Social Communication Disorder is new in the most recent version of the DSM-5. It refers to persons who demonstrate challenges in the use area of linguistic ability. These challenges may include, for example, difficulty employing language that is appropriate to the social context (e.g., speech style, word choice), failure to adjust language according to the needs of one's communication partner (e.g., providing background information when telling a story to a listener who is unfamiliar with the topic), lack of use of non-verbal forms of communication to augment spoken language (e.g., a wink and a smile paired with a sarcastic comment), and challenges for taking turns appropriately in reciprocal

interactions with others. Although social communication problems might be less evident early in life, they may become increasingly evident as children get older (e.g., school years).

Due to the fact that the category of social communication disorders is relatively new, its prevalence is not known at this time.

Unspecified Communication Disorder

Lastly, according to the DSM-5, there is a final category of communication disorder known as an Unspecified Communication Disorder. This is a somewhat generic category, that refers to situations in which problems with communication are evident but for which these problems do not fit specifically within any of the other four categories of communication disorders.

Summary

Overall, there are many reasons why children can experience challenges in the area of communication. While these challenges might exist on their own, they also commonly co-occur with other developmental disabilities.

Importantly, problems in the area of communication might actually be the first sign of a developmental problem. As such, any parent, caregiver, clinician or physician who notices a red flag of concern in the area of speech, language and/or social communication is encouraged to consult with a speech-language pathologist as soon as possible (i.e., don't "wait and see"). In Ontario, the service system provides speech-language pathologists in the preschool system via the Preschool Speech and Language programs. For school aged children, speech-language pathologists are available in schools. Speech-language pathologists can help to identify communication disorders and they provide intervention support accordingly.

Recent Events in the Developmental Disabilities Program.

The Developmental Disabilities Program, in partnership with Dr. Julio Martinez-Trujillo (Provincial Endowed Academic Chair in Autism, Schulich School of Medicine & Dentistry), held the premiere DD/ASD (Developmental Disabilities/Autism Spectrum Disorder) Research Day on May 5, 2016. This inaugural event was a great success. It featured presentations from researchers in the Departments of Psychiatry, Biochemistry, Pathology & Laboratory Medicine, Anatomy & Cell Biology, Psychology, Physiology & Pharmacology, and the School of Communication Sciences & Disorders.

The day closed with a keynote address by Dr. Caroline E. Robertson, a neuroscientist in the Harvard Society of Fellows. Her address was titled; "Vision in Autism: A Window into the Brain". The talk focused on Dr. Robertson's research, where she uses neuroimaging techniques to research visual perception in the human brain. Her research has shed light on psychiatric conditions, such as Autism Spectrum Conditions (ASC), in which different patterns of higher-order cognition are mirrored in how people visually engage with the world. She has recently discovered a link between a specific neurotransmitter in the human brain and symptoms people with autism experience in vision.

Moving forward, the participants from this event are aiming to create an "ASD/DD Research consortium", utilizing each other's knowledge, connections and expertise to collaborate on and expand research in the field of Developmental Disabilities and Autism Spectrum Disorder.

If you are interested in participating in this research consortium, and/or would like to receive communications about the network, please contact Sarah O'Flanagan at sarah.oflanagan@lhsc.on.ca.

For more information about Dr. Caroline Robertson and/or her research, please visit her website at www.carolineerobertson.com.

Upcoming Events in the Developmental Disabilities Program.

Fall Rounds.

The Department of Psychiatry, Schulich School of Medicine & Dentistry, runs monthly rounds on the second Thursday of each month. The Developmental Disabilities Program is hosting this monthly session on Thursday September 8, 2016. Our invited speaker is Dr. Jessica Jones, D.Clin.Psy., C.Psych. Clinical and Forensic Psychologist, Associate Professor of Psychiatry & Psychology, Queen's University, Co-Chair, Division of Developmental Disabilities, Department of Psychiatry, and Clinical Director, Developmental Disabilities Consulting Program. She will speak about people with developmental disabilities that are in conflict with the law, or have significant interaction with the criminal justice system.

Information about monthly rounds is available on the website of the department of psychiatry at http://www.schulich.uwo.ca/psychiatry/education/cpd/monthly_rounds.html

For more information about this session, please contact Sarah O'Flanagan, Program Coordinator for the Developmental Disabilities Program, at sarah.oflanagan@lhsc.on.ca, or by phone at 519-646-6100, x47694.

Developmental Disabilities Clinical and Research Rounds

Starting in the fall of 2016, the Developmental Disabilities Program will begin a series of Clinical and Research Rounds featuring presentations by experts in the field of neurodevelopmental disabilities, and intellectual disabilities. The Rounds will be held on the first Wednesday of each month at CPRI, and will be video-conferenced to hospital sites, and will be available for viewing on your personal computer or mobile device.

Our focus will be an alternating schedule of clinical case presentations and discussions, and basic science presentations and discussions. These events will be accredited through the Royal College of Physicians and Surgeons of Canada and the Canadian Psychological Association. We have also applied for accreditation through the College of Family Physicians of Canada and are awaiting approval.

Registration will not be required. Information on these sessions will be available on the ddp website - <http://www.schulich.uwo.ca/ddp/>, or by contacting Sarah O'Flanagan (program coordinator) at sarah.oflanagan@lhsc.on.ca.

Our first session is scheduled for September 14, 2016. Please check the DDP website for presenter information in the coming weeks.

Current Research/Publications on Developmental Disabilities.

Journal of Applied Research in Intellectual Disabilities

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May 2016. 29(3).

1. The characteristics of Local Support Systems, and the Roles of Professionals, in Supporting Families where a Mother has an Intellectual Disability.
Weiber, I., Eklund, M., & Tengland, P. p. 197-210.
2. Identifying Children with Intellectual Disabilities in the Tribal Population of Barwani District in State of Madhya Pradesh, India.
Lakhan, R., & Mawson, A.R. p. 211-219.
3. Adult Siblings Consider the Future: Emergent Themes.
Davys, D., Mitchell, D., & Haigh, C. p. 220-230.
4. Factors Contributing to Sexual Violence at Selected Schools for Learners with Mild Intellectual Disability in South Africa
Nyokangi, D., & Phasha, N. p. 231-241.
5. Understanding Sources of Knowledge for Coaches of Athletes with Intellectual Disabilities.
MacDonald, D.J., Beck, K., Erickson, K., & Cote, J. p. 242-249.
6. Effects on Physical Health of a Multicomponent Programme for Overweight and Obesity for Adults with Intellectual Disabilities.
Martinez-Zaragoza, F., Campillo-Martinez, J.M., & Ato-Garcia, M. p. 250-265.
7. Practice Leadership at the Front Line in Supporting People with Intellectual Disabilities and Challenging Behaviour.
Deveau, R., & McGill, P. p. 266-277.
8. Randomized Control Trial of the 3Rs Health Knowledge Training Program for Persons with Intellectual Disabilities.
Feldman, M.A., Owen, F., Andrews, A.E., Tahir, M., Barber, R., & Griffiths, D. p. 278-288.
9. Substance Use, Offending, and Participation in Alcohol and Drug Treatment Programmes: A Comparison of Prisoners with and without Intellectual Disabilities.
McGillivray, J.A., Gaskin, C.J., Newton, D.C., & Richardson, B.A. p.289-294.

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May 2016. 60(5).

1. The Intersection of Autism Spectrum Disorder and Intellectual Disability.
Blacher, J., & Kasari, C. p. 399-400.
2. Individual, Parent and Social-Environmental Correlates of Caregiving Experiences Among Parents of Adults with Autism Spectrum Disorder.
Burke, M., & Heller, T. p. 401-411.
3. South African Families Raising Children with Autism Spectrum Disorders: Relationship between family routines, cognitive appraisal and family quality of life.
Schlebusch, A., Samuels, E., & Dada, S. p. 412-423.
4. Functional Severity and Latino Ethnicity in Specialty Services for Children with Autism Spectrum Disorder.
Magana, S., Parish, S.L., & Son, E. p. 424-434.
5. Examining the Social Participation of Children and Adolescents with Intellectual Disabilities and Autism Spectrum Disorder in Relation to Peers.
Taheri, A., Perry, A., & Minnes, P. p. 435-443.
6. Intervention Effects on Spoken-Language Outcomes for Children with Autism: A Systematic Review and Meta – Analysis.
Hampton, L.H., & Kaiser, A.P. P. 444-463
7. The Proportion of Minimally Verbal Children with Autism Spectrum Disorder in a Community-Based Early Intervention Programme.
Rose, V., Trembath, D., Keen, D., & Paynter, J. p. 464-477.
8. Consonant Differentiation Mediates the Discrepancy Between Non-Verbal and Verbal Abilities in Children with ASD.
Key, A.P., Yoder, P.J., & Stone, W.L. p. 478-490.
9. Children with Autism Respond Differently to Spontaneous, Elicited and Deferred Imitation.
Heimann, H., Nordqvist, E., Strid, K., Connant Almrot, J., & Tjus, T. p. 497-501.
10. Assessment of Cognition and Language in the Early Diagnosis of Autism Spectrum Disorder: Usefulness of the Bayley Scales of Infant and Toddler Development, Third Edition.
Torras-Mana, M., Gomez-Morales, A., Gonzalez-Gimeno, I., Fornieles-Deu, A., & Brun-Gasca, C. p. 502-511.
11. Screening for ASD in Adults with ID – Moving toward a standard using the DiBAS-R and the ACL
Mutsaerts, C.G., Heinrich, M., Sterkenburg, P.S., & Sappok, T. p. 512-522.

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Upcoming Conferences on Developmental Disabilities.

National Association for the Dually Diagnosed

NADD 33rd Annual Conference and Exhibit Show.

November 2-4, 2016. Niagara Falls Ontario.

“Weaving Solutions: Research/Policy/Practice in IDD/MI”

Keynote Addresses;

Developmental Disabilities and Addictions: The “Other” Dual Diagnosis.

Elsbeth Slayter, PhD, Salem State University, Salem, MA.

Autism: Innovative Approaches to Improve Mental Health Across the Borders

Susan Havercamp, PhD, OSU, Nisonger Center Columbus, OH and Peter Szatmari, MD, The Hospital for Sick Children and Center for Addiction and Mental Health , Toronto, ON, CAN.

Information and registration information can be found on the NADD website – thenadd.org

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