

ISRAEL

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The history of DLD in the country

The current model of the profession corresponding intervention for children with Developmental Language Disorders (DLD) in Israel developed based on a dual medical model of hearing (Audiology) and speech and language pathology. The name of the profession is Communication Disorder Clinician (CDC) inferring both audiology and speech-language. The first department of Communication Disorders was founded in 1967 at Tel-Aviv University within the faculty of Medicine and all programs since then are within schools of health sciences (Kishon-Rabin 2016). In the current chapter, we used this local term focusing on the responsibility of CDCs in their work with children with DLD .

Since 2008, the profession is authorised by the Ministry of Health. Becoming a certified CDC requires a Bachelor's degree in Communication Disorders and passing a profession specific Ministry of Health exam (https://www.health.gov.il/LegislationLibrary/Mikzoha_01.pdf). MA and PhD programs are also available. Additionally, in 2014 the Israeli Speech Hearing and Language Association (ISHLA) published the ethical code of the profession, which was written in both Hebrew and Arabic, the two common languages in Israel (<http://ishla.org.il>) .

CDCs in Israel are represented by a professional association- ISHLA (<http://ishla.org.il>) that was founded in 1964. ISHLA is a membership association that focuses on professional standards, continuing education programs and a yearly scientific conference. It publishes a professional peer reviewed journal (in Hebrew, with abstracts in English and Arabic) with an online version, announces position papers that are written by professionals on different clinical topics (<http://ishla.org.il>) and is actively engaged in policy making on various issues .

The prevalence of language impairment, screening and the diagnosis process

The term used by practitioners for diagnosis is Language Difficulties/Impairment. Whereas the prevalence of populations such as autism is published (Davidovitch et al. 2013), data on DLD are not available. The US prevalence 5% to 7% of the population (Tomblin et al. 1997) is used in the medical and educational fields .

A national screening program for children with developmental delay, administered in 2004 (Orkin et al. 2011), is mandatory for children ages 0-5 years. The screening program was

developed in recognition of the importance of early identification and intervention of children at high risk (not only for DLD). Expert nurses who follow the national screening protocol (Orkin et al. 2011) run the program. An expert nurse follows each child every three months in special health clinics. Language, hearing, communication and other developmental tasks are tested according to the child's age. For example, at age 0-3 months, children are tested for a social smile, vocal responses and hearing responses. At ages 6-9 months, children are tested for vocal responses in various syllabic structures and different response to familiar and unfamiliar people. At age 5-6 years the child is tested for his or her ability to tell a story based on a set of pictures and for play with others. If the child fails in one or more of the tasks of the protocol, the family is invited for a second screening or else, the child is referred for further diagnosis by a CDC. Paediatricians can also refer a child for assessment by a CDC if they suspect language delay or impairment.

Diagnosis of pre-schoolers takes place in Child Developmental Centres, which are part of the medical system by a CDC. If needed, based on parental questionnaires or intake assessment, a multi-disciplinary team is involved in the diagnosis. For babies and toddlers up to 3 years of age, waiting lists are no longer 3 months according to law, but in many cases the waiting lists are longer. Private clinics are also an option but mainly in wealthy areas of the country. A child with a diagnosis of DLD is referred to a special education kindergarten/class or to individual intervention based on the severity of the impairment .

Language assessment tools

Historically, clinical language assessment tools were adopted from English to Hebrew. Here we present three known tools that are common in the clinic. The Reynell test (Reynell and Curwen 1977) was adapted from British English and is less common today. The Pre-school Language Scale (PLS-4, Zimmerman et al. 2002) and the Ma'ase test (Rom and Morag 1999; 2000) adapted from the Language Processing Test (Richard and Hanner 1985) are two tests that are common in the clinic today. Both of them are adapted from American English. The adaptation process included changes based on language and cultural differences. For example, in the Reynell test, pig toys, included as farm animals, were replaced with cows. These language tests did not include the unique linguistic features of the Hebrew language. For example, in Hebrew as in other Semitic languages (such as Arabic), semantic relations between words rely on their shared root. In addition, nonlinear derivation (interweaving of a consonantal root into a vocalic pattern) is part of core language knowledge (Levin et al 2001).

Thus, the next step in developing language assessment tools focused on specific linguistic features of Hebrew and on tests written in Hebrew from scratch. These tools include the Goralnik screening test (Goralnik 1995) for ages 3-7, the Katzenberger preschool language test for ages 4-6 (Katzenberger and Meilijson 2014) and the school- age version for ages 6-9 (Katzenberger and Meilijson 2018). In addition, there are assessment tools that target specific language domains. For example, the vocabulary Tavor test (Tavor 2006), testing production of different lexical categories such as nouns, verbs and adjectives, and the Shemesh test (Biran and Friedmann 2005) focusing on naming abilities and types of errors. Finally, language samples are used as naturalistic data and are scored based on different measures: HARSP (Berman and Lustigman 2012), IPSYN (Scarborough 1990) and Mean

Length of Utterance modified to morpheme-per-utterance (Dromi and Berman 1982). Each of these analyses represents different theoretical approaches and is used to document differences that may or may not be considered a disorder based on differences between an individual child and an age-matched group. In addition, they allow evaluating change within the same child across time (e.g. Albert et al 2013) .

The influence of the profession on screening tools within the education system is present in the Mabatim assessment tool (<http://edu.gov.il/minhalpedagogy/preschool/subjects/guides-teacher/Pages/mabatim.aspx>). This is an observational tool, aiming to screen for developmental delay in a natural environment. It was developed by a multidisciplinary team including a CDC (Edith Wagner) with a language and communication section as part of the tool .

From early childhood to school age - language intervention for children with DLD

In 1988, the Israeli Parliament adopted the law of Special Education (<http://cms.education.gov.il/EducationCMS/Units/Zchuyot/ChukimVeamanot/Chukim/ChinuchMeyuchad.htm>). According to this law, every child aged 3-6 years, diagnosed with DLD is assigned to a special education kindergarten: a kindergarten for children with language delay (the preferred option) or a kindergarten for children with general developmental delay. In these kindergartens, the children get language intervention, occupational therapy and emotional therapy in an integrated program planned and operated by teamwork. In addition, there are integrative kindergartens in which two third of the children have typical language development and one third are children with DLD (or general developmental delay). In these special programs, there are two teachers, one for each group, two assistant teachers and a multi-disciplinary team including CDCs. Many activities are shared between the two groups and specific separate activities are planned for the group of children with DLD. Children who stay in mainstream education, usually with less severe diagnoses, or children whose parents prefer not to send them to special education kindergarten, get language interventions in clinics belonging to the Ministry of Health. As mentioned before, the Special Education law refers to children above the age of 3 years old. Children under the age of 3 get language intervention in medical clinics, some of them inside hospitals, belonging to the Ministry of Health .

At school age, children with DLD are referred to special education classes. The terms used for these classes are "language classes" or "learning disabilities classes". In 2018, a change in the Special Education law provides the decision of the program to parents. According to this change, parents decide if to send their children to mainstream kindergartens/classes or to special classes

(<http://main.knesset.gov.il/Activity/Legislation/Laws/Pages/LawBill.aspx?t=LawReshumot&awitemid=2065822>). Language intervention programs are also available after school hours, in special centres for children with language or learning disabilities. In these classes and centres, CDCs are part of the multi-disciplinary team that works with the child. They mostly work directly with individuals or small groups of children and in addition, they do consulting

work with educational staff. The different programs for children with DLD are under the umbrella of the Ministry of Education, which is the main employer of CDCs in Israel .

In general, language intervention can be individual, dyadic or in groups. In recent years, there is a movement from individual sessions behind a closed door to group work, sometimes with all the children/students, in the classroom. This is a result of moving from the medical didactic model of direct teaching, to a constructivist model, emphasizing the active role of the learner. According to this model, learning in general, including language learning is perceived as a social process of the learner who connects known information with new information (Vygotsky 1980). The change to group work enables more children to be involved in communicative-linguistic activities and enables modeling by the CDC to the education team .

As outcomes of this modeling, the teachers can use previously modeled principles and activities in other contexts, promoting generalization and improvement of gains. To the best of our knowledge, there is no high quality published evidence of intervention efficacy from Israel. Here we describe the common intervention approaches in Israel .

Different approaches of intervention for children with DLD

Naturalistic Developmental Intervention (NDI) is a common approach in Israel (Dromi 1996; 2018). It is related to whole language approach and based on a language experience approach. It is used mainly with preschoolers. This approach claims that children with language or communication disorders will benefit most from early intervention that imitates the natural, spontaneous process of language development. The goal of this approach is that intervention will be delivered everywhere, at any time, during various activities and experiences that the child likes and enjoys, for example during mealtime, in the playground etc. (Dromi 2018). The "Keshet" project (Dromi 1996), which is based on the Naturalistic Developmental Intervention principles, was first developed and used for children with hearing impairment (<https://sites.google.com/a/lakash.tzafonet.org.il/main/home/keshet>) and is used across the country with different clinical populations including children with DLD .

Other approaches are also used. The Ecological approach (DeSouza and Sivewright 1993) and the International Classification Function (ICF) (http://apps.who.int/iris/bitstream/handle/10665/43737/9789241547321_eng.pdf;jsessionid=E383F7D0A89BDD65CBE9664760DFC6AF?sequence=1) are embedded in the health system in clinics that belong to the Ministry of Health and in the educational system. Many CDCs develop their own eclectic mixed approach aiming to match the specific child and family needs rather than following a specific approach (Rom et al 2009). However, in many cases, the eclectic mix is based on the clinician's experience and beliefs .

In addition, methods that target specific language areas are available in Hebrew for CDCs. For example, the book "Safa ve-Kots Ba" (Rom et al 2009) includes different intervention methods for children with DLD in the different language areas (e.g. syntax and lexicon). Another example is the book "Speech Sound Disorders in Hebrew: theoretical issues and clinical implications" (Tubul-Lavi and Potter-Catts 2018), which includes speech disorders in view of phonological disorders, focusing on Hebrew .

Bridging the gap between kindergarten and schooling with the aim of identifying children with special needs, including children with DLD, the Ministry of Education published a special program called: "Base for Reading and Writing"

(http://cms.education.gov.il/NR/rdonlyres/38A88D0A-2380-4220-A6E5-21279F8D3780/68787/Tashtit_0175.pdf). This program is used in every kindergarten with children ages 3-6. It includes activities aiming to develop linguistic abilities in the areas of the lexicon, morphology, syntax and pragmatics, as well as literacy: phonological awareness, knowledge of letters, phonetic spelling, knowledge of print (books) and more .

The role of the CDC with regard to children with learning disabilities in the school system is less clear. Bar-On et al (2011) argued for the importance of CDCs in the case of Language-Learning Disability both in diagnosis and in intervention, declaring that CDCs have a crucial role in identifying students with DLD, assessing their linguistic abilities and implementing intervention programs .

The clinical research of bilingual children with DLD is a growing field in Israel (Armon-Lotem et al 2015). In 2017, expert CDCs and linguists published a detailed position paper arguing for the advantages of keeping the home language for bilingual children with DLD. The position paper advocates for a change in language assessment and intervention with these children emphasizing the importance of both home and societal language (<http://ishla.org.il/wp-content/uploads/2017/01/multi-lingual-paper.pdf>). Another related topic is the diglossic condition of the Arabic speaking children with DLD in Israel. In Diglossic Arabic, two forms of the language exist: the Spoken Arabic used only orally and for daily communication and the Standard Arabic used in the written modality and in the spoken modality in formal interactions. The two varieties of the language differ in all language components (Saiegh-Haddad and Joshi 2014). In recent years, there is growing research in this field (Saiegh-Haddad and Ghawi-Dakwar 2017), however more development of language assessment tools and intervention practice are required .

Looking to the future

As suggested by our colleagues in this book, it is important to adopt one term for the diagnosis of children with Development Language Disorders (Bishop, et al 2016). It is also of major importance to use it consistently with policy makers. It is important to communicate one solid term within the community of CDCs, with parents and with other professions such as psychologists and teachers. The strength of the new term is its two Ds. The first D - for development - explicitly grounds the language disorder within the field of acquisition and

development (rather than learning) and highlights the requirement for a profession with a strong background in these two fields: language acquisition and child development. The second D - for disorder - unambiguously emphasizes that this is not a temporary condition or a simple delay, but a lifelong impairment that affects academic and social functioning. It highlights the requirement for a profession with strong knowledge in atypical language development and supports the long-term intervention required for children with DLD. Although the needs of children with DLD are caused by a developmental origin (the first D, analogous to genotype in biology), with age, the phenotype of the disorder (represented in the second D) changes and intervention needs to be modified and reframed accordingly. For example, while in preschool the focus is on spoken language, during school years the difficulties are also manifested in the written modality (reading and writing) (Sun and Wallach 2014) .

On the one hand, the profession in Israel can be proud of the screening protocol from infancy to school age. On the other hand, the assessment tools available today are not effective for parts of the Israeli population due to cultural and linguistic diversity in the country. For example, more attention is required for assessment tools for bilingual children. Specific care is required for the diglossic condition of the Arabic speaking population, representing a unique bilingual situation. There is also an urgent need for developing assessment tools for children above 10 years of age. In addition, there is a lack of CDCs who can work with children in middle school and high school .

Intervention and evidence-based research are also an essential area for future development. It is important to understand the validity of intervention approaches for children with DLD from diverse social and cultural backgrounds, as already noted in previous chapters. Importantly, we need to develop intervention methods that are based on the linguistic features of the language, in the case of Hebrew - the characteristics of Semitic languages, especially in the morphological domain (Kreiser and Novogrodsky, in preparation). Understanding the universal profiles of children with DLD and the linguistic characteristics of the specific language is the core of future evidence-based assessment and intervention practice .

Conclusions

There is a universal challenge to communicate the diagnosis of DLD within the profession and with other professionals, making DLD as known as Dyslexia and Autism. It is our responsibility to use and keep one term and to communicate it consistently (Bishop et al 2016). With respect to the diagnostic process in Israel, screening and identification of children with DLD is established, but we have just started to understand how to reach diverse populations and how to develop a practice that is based on evidence. Finally, CDCs in Israel are more aware of the need to consider specific features of Hebrew when assessing children suspected of DLD and when planning intervention programs, but there is still a need for more assessment tools and intervention programs, especially for adolescents .

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