

Word Finding Difficulties: A Dynamic Developmental Process

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What Causes WFD?

'Word-finding difficulty' (WFD) is an expressive speech disorder that can result from a wide range of neurologic disturbances. It can be the result of multiple brain disorders such as an infraction [1], epilepsy [2] an infectious disease [3] or even multiple sclerosis [4]. WFD's true prevalence is not determined yet, presumably because of its multiple causes. WFD seems to be more frequent in adults and seniors, as brain tissue disorders are much more common in these aged populations [5]. In children, it seems to be even less diagnosed compared to adults. Word-finding difficulty in children could be considered a learning disability that takes place during the child's development of normal language skills however its importance is less recognized compared to other disabilities. In the Israeli health system, children from birth to school age are treated when needed in child development centers, where the awareness of language difficulties is higher, while older children are generally followed in diverse types of neuro-developmental clinics.

The Manifestation of WFD

WFD is manifested by long delays in word retrieval, a high occurrence of circumlocutions, and word substitutions [6-8]. These difficulties appear to be specifically linked to lexical production. Children with WFDs can select the correct referent from a display and imitate target words after a delay, but have difficulties producing the target word. These children provide evidence that they comprehend a term and can produce the appropriate phonological sequences,

however, the problems appear to be restricted to lexical access [9]. The factors determining WFD are yet to be elucidated. Several clinical symptoms are associated with WFD, mainly the incompetence to find the applicable word resulting in unusual speech. Among the flawed language patterns are the lengthy time between words, and interrupted sentences, which as a consequence may involve insertions other than the appropriate word in the form of word repetitions, substitutions, or reformulations. An attentive listener may detect these speech barriers during a routine talk with the child. Byers, et al. [10] have identified two distinct groups of children with WFD according to their behaviors. Children who may have insufficient vocabulary may demonstrate mute-like moments due to their problems and could be perceived as socially deprived and non-communicative. On the other hand, the second group of children attempt to defy WFD by over-chatting, employing conversation fillers as a mode of speaking. Wiig, et al. [11] analyzed 16 children with recognized «language disabilities» by collecting 50 spontaneous speech utterance samples. WFD has been diagnosed in 48 samples according to the typical criteria: stereotypic starters for example 'and then' or 'and after that' anteceded $\geq 75\%$ of all utterances; pauses within ≥ 1 expression in an utterance exceeded 5 seconds in duration and were presented in $\geq 25\%$ of all utterances; place-holders i.e. 'uh', 'uhm', or 'ah' or popular articulations such as 'well you know' were demonstrated within ≥ 1 phrases in more than half of the utterances; repetition of words was evident in $\geq 25\%$ of the utterances; indirect descriptions were found in more than a quarter of the utterances. In many cases, a concern

of WFD in a child will come from the kindergarten teacher; more rarely from a parent or, not uncommonly, the difficulty is identified by the pediatric neurologist in the course of the assessment. In any situation, the potential cause for the wordfinding problem needs to be established but this is often not straightforward.

ADHD and WFD

Attention deficit hyperactivity disorder (ADHD) – is the most common neuro-developmental-psychiatric disorder that pediatric neurologists are being referred to for treatment. It is well accepted that a significant percentage of ADHD-diagnosed children have other comorbidities such as learning difficulties as well, approximately 70 percent of them. Spoken communication depends on a sequence of cognitive processes, and disruption of any of these processes can affect word-finding. The association between language disability and ADHD is well recognized [12,13], yet WFD is less emphasized. The incidence of WFD problems is declining as the child ages, perhaps because to a significant degree, children can «naturally» overcome their WFD disability and improve speech fluency. However, occasionally WFD, which is a type of language pathology disorder, may persist as a lifelong phenomenon.

Identification of WFD

In the clinic, the WFD can be easily demonstrated while asking the child to describe what he sees in a picture, and what is the story of the picture. While upon the development of the child, the WFD seems to improve, the ADHD is not, and thus, at older ages, the ADHD is the reason to refer the child for evaluation. WFD can be a part of and behave like what is in another maturation-related disorder, Rolandic epilepsy. The clinical experience shows that occasionally WFD can be associated with an abnormal, sometimes focal electroencephalogram (EEG) without having clinical seizures and without another abnormal neurological finding. All children who are referred for evaluation must have a complete neurological examination by the neurologist. It can be suggested that traces of WFD should be actively sought, and if found, a sleep-deprived EEG should be offered as part of the diagnosis. Nonetheless, early diagnosis of WFD might indicate a

future emergence and display of ADHD symptoms. Early intervention through pediatric speech and language therapy is advised for WFD.

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