Language Disorder

Diagnostic Criteria **315.32 (F80.2)**

A. Persistent difficulties in the acquisition and use of language across modalities (i.e., spoken, written, sign language, or other) due to deficits in comprehension or production that include the following:
   1. Reduced vocabulary (word knowledge and use).
   2. Limited sentence structure (ability to put words and word endings together to form sentences based on the rules of grammar and morphology).
   3. Impairments in discourse (ability to use vocabulary and connect sentences to explain or describe a topic or series of events or have a conversation).

B. Language abilities are substantially and quantifiably below those expected for age, resulting in functional limitations in effective communication, social participation, academic achievement, or occupational performance, individually or in any combination.

C. Onset of symptoms is in the early developmental period.

D. The difficulties are not attributable to hearing or other sensory impairment, motor dysfunction, or another medical or neurological condition and are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay.

Diagnostic Features

The core diagnostic features of language disorder are difficulties in the acquisition and use of language due to deficits in the comprehension or production of vocabulary, sentence structure, and discourse. The language deficits are evident in spoken communication, written communication, or sign language. Language learning and use is dependent on both receptive and expressive skills. *Expressive ability* refers to the production of vocal, gestural, or verbal signals, while *receptive ability* refers to the process of receiving and comprehending language messages. Language skills need to be assessed in both expressive and receptive modalities as these may differ in severity. For example, an individual's expressive language may be severely impaired, while his receptive language is hardly impaired at all.

Language disorder usually affects vocabulary and grammar, and these effects then limit the capacity for discourse. The child's first words and phrases are likely to be delayed in onset; vocabulary size is smaller and less varied than expected; and sentences are shorter and less complex with grammatical errors, especially in past tense. Deficits in comprehension of language are frequently underestimated, as children may be good at using context to infer meaning. There may be word-finding problems, impoverished verbal definitions, or poor understanding of synonyms, multiple meanings, or word play appropriate for age and culture. Problems with remembering new words and sentences are manifested by difficulties following instructions of increasing length, difficulties rehearsing strings of verbal information (e.g., remembering a phone number or a shopping list), and difficulties remembering novel sound sequences, a skill that may be important for learning new words. Difficulties with discourse are shown by a reduced ability to provide adequate information about the key events and to narrate a coherent story.

The language difficulty is manifest by abilities substantially and quantifiably below that expected for age and significantly interfering with academic achievement, occupational performance, effective communication, or socialization (Criterion B). A diagnosis of language disorder is made based on the synthesis of the individual's history, direct clinical observation in different contexts (i.e., home, school, or work), and scores from standardized tests of language ability that can be used to guide estimates of severity.

Associated Features Supporting Diagnosis

A positive family history of language disorders is often present. Individuals, even children, can be adept at accommodating to their limited language. They may appear to be shy or reticent to talk. Affected individuals may prefer to communicate only with family members or other familiar individuals. Although these social indicators are not diagnostic of a language disorder, if they are notable and persistent, they warrant referral for a full language assessment. Language disorder, particularly expressive deficits, may co-occur with speech sound disorder.

Development and Course

Language acquisition is marked by changes from onset in toddlerhood to the adult level of competency that appears during adolescence. Changes appear across the dimensions of language (sounds, words, grammar, narratives/expository texts, and conversational skills) in age-graded increments and synchronies. Language disorder emerges during the early developmental period; however, there is considerable variation in early vocabulary acquisition and early word combinations, and individual differences are not, as single indicators, highly predictive of later outcomes. By age 4 years, individual differences in language ability are more stable, with better measurement accuracy, and are highly predictive of later outcomes. Language disorder diagnosed from 4 years of age is likely to be stable over time and typically persists into adulthood, although the particular profile of language strengths and deficits is likely to change over the course of development.

Risk and Prognostic Factors

Children with receptive language impairments have a poorer prognosis than those with predominantly expressive impairments. They are more resistant to treatment, and difficulties with reading comprehension are frequently seen.

Genetic and physiological. Language disorders are highly heritable, and family members are more likely to have a history of language impairment.

Differential Diagnosis

Normal variations in language. Language disorder needs to be distinguished from normal developmental variations, and this distinction may be difficult to make before 4 years of age. Regional, social, or cultural/ethnic variations of language (e.g., dialects) must be considered when an individual is being assessed for language impairment.

Hearing or other sensory impairment. Hearing impairment needs to be excluded as the primary cause of language difficulties. Language deficits may be associated with a hearing impairment, other sensory deficit, or a speech-motor deficit. When language deficits are in excess of those usually associated with these problems, a diagnosis of language disorder may be made.

Intellectual disability (intellectual developmental disorder). Language delay is often the presenting feature of intellectual disability, and the definitive diagnosis may not be made until the child is able to complete standardized assessments. A separate diagnosis is not given unless the language deficits are clearly in excess of the intellectual limitations.

Neurological disorders. Language disorder can be acquired in association with neurological disorders, including epilepsy (e.g., acquired aphasia or Landau-Kleffner syndrome).

Language regression. Loss of speech and language in a child younger than 3 years may be a sign of autism spectrum disorder (with developmental regression) or a specific neurological condition, such as Landau-Kleffner syndrome. Among children older than 3 years, language loss may be a symptom of seizures, and a diagnostic assessment is necessary to exclude the presence of epilepsy (e.g., routine and sleep electroencephalogram).

Comorbidity

Language disorder is strongly associated with other neurodevelopmental disorders in terms of specific learning disorder (literacy and numeracy), attention-deficit/hyperactivity disorder, autism spectrum disorder, and developmental coordination disorder. It is also associated with social (pragmatic) communication disorder. A positive family history of speech or language disorders is often present.

Speech Sound Disorder

Diagnostic Criteria **315.39 (F80.0)**

A. Persistent difficulty with speech sound production that interferes with speech intelligibility or prevents verbal communication of messages.
B. The disturbance causes limitations in effective communication that interfere with social participation, academic achievement, or occupational performance, individually or in any combination.
C. Onset of symptoms is in the early developmental period.
D. The difficulties are not attributable to congenital or acquired conditions, such as cerebral palsy, cleft palate, deafness or hearing loss, traumatic brain injury, or other medical or neurological conditions.

Diagnostic Features

Speech sound production describes the clear articulation of the phonemes (i.e., individual sounds) that in combination make up spoken words. Speech sound production requires both the phonological knowledge of speech sounds and the ability to coordinate the movements of the articulators (i.e., the jaw, tongue, and lips,) with breathing and vocalizing for speech. Children with speech production difficulties may experience difficulty with phonological knowledge of speech sounds or the ability to coordinate movements for speech in varying degrees. Speech sound disorder is thus heterogeneous in its underlying mechanisms and includes phonological disorder and articulation disorder. A speech sound disorder is diagnosed when speech sound production is not what would be expected based on the child's age and developmental stage and when the deficits are not the result of a physical, structural, neurological, or hearing impairment. Among typically developing children at age 4 years, overall speech should be intelligible, whereas at age 2 years, only 50% may be understandable.

Associated Features Supporting Diagnosis

Language disorder, particularly expressive deficits, may be found to co-occur with speech sound disorder. A positive family history of speech or language disorders is often present.

If the ability to rapidly coordinate the articulators is a particular aspect of difficulty, there may be a history of delay or incoordination in acquiring skills that also utilize the articulators and related facial musculature; among others, these skills include chewing, maintaining mouth closure, and blowing the nose. Other areas of motor coordination may be impaired as in developmental coordination disorder. *Verbal dyspraxia* is a term also used for speech production problems.

Speech may be differentially impaired in certain genetic conditions (e.g., Down syndrome, 22q deletion, *FoxP2* gene mutation). If present, these should also be coded.

Development and Course

Learning to produce speech sounds clearly and accurately and learning to produce connected speech fluently are developmental skills. Articulation of speech sounds follows a

developmental pattern, which is reflected in the age norms of standardized tests. It is not unusual for typically developing children to use developmental processes for shortening words and syllables as they are learning to talk, but their progression in mastering speech sound production should result in mostly intelligible speech by age 3 years. Children with speech sound disorder continue to use immature phonological simplification processes past the age when most children can produce words clearly.

Most speech sounds should be produced clearly and most words should be pronounced accurately according to age and community norms by age 7 years. The most frequently misarticulated sounds also tend to be learned later, leading them to be called the "late eight" (*l, r, s, z, th, ch, dzh,* and *zh*). Misarticulation of any of these sounds by itself could be considered within normal limits up to age 8 years. When multiple sounds are involved, it may be appropriate to target some of those sounds as part of a plan to improve intelligibility prior to the age at which almost all children can produce them accurately. Lisping (i.e., misarticulating sibilants) is particularly common and may involve frontal or lateral patterns of airstream direction. It may be associated with an abnormal tongue-thrust swallowing pattern.

Most children with speech sound disorder respond well to treatment, and speech difficulties improve over time, and thus the disorder may not be lifelong. However, when a language disorder is also present, the speech disorder has a poorer prognosis and may be associated with specific learning disorders.

Differential Diagnosis

Normal variations in speech. Regional, social, or cultural/ethnic variations of speech should be considered before making the diagnosis.

Hearing or other sensory impairment. Hearing impairment or deafness may result in abnormalities of speech. Deficits of speech sound production may be associated with a hearing impairment, other sensory deficit, or a speech-motor deficit. When speech deficits are in excess of those usually associated with these problems, a diagnosis of speech sound disorder may be made.

Structural deficits. Speech impairment may be due to structural deficits (e.g., cleft palate).

Dysarthria. Speech impairment may be attributable to a motor disorder, such as cerebral palsy. Neurological signs, as well as distinctive features of voice, differentiate dysarthria from speech sound disorder, although in young children (under 3 years) differentiation may be difficult, particularly when there is no or minimal general body motor involvement (as in, e.g., Worster-Drought syndrome).

Selective mutism. Limited use of speech may be a sign of selective mutism, an anxiety disorder that is characterized by a lack of speech in one or more contexts or settings. Selective mutism may develop in children with a speech disorder because of embarassment about their impairments, but many children with selective mutism exhibit normal speech in "safe" settings, such as at home or with close friends.

Childhood-Onset Fluency Disorder (Stuttering)

Diagnostic Criteria **315.35 (F80.81)**

A. Disturbances in the normal fluency and time patterning of speech that are inappropriate for the individual's age and language skills, persist over time, and are characterized by frequent and marked occurrences of one (or more) of the following:

   1. Sound and syllable repetitions.
   2. Sound prolongations of consonants as well as vowels.

3. Broken words (e.g., pauses within a word).
4. Audible or silent blocking (filled or unfilled pauses in speech).
5. Circumlocutions (word substitutions to avoid problematic words).
6. Words produced with an excess of physical tension.
7. Monosyllabic whole-word repetitions (e.g., "I-I-I-I see him").

B. The disturbance causes anxiety about speaking or limitations in effective communication, social participation, or academic or occupational performance, individually or in any combination.

C. The onset of symptoms is in the early developmental period. (**Note:** Later-onset cases are diagnosed as 307.0 [F98.5] adult-onset fluency disorder.)

D. The disturbance is not attributable to a speech-motor or sensory deficit, dysfluency associated with neurological insult (e.g., stroke, tumor, trauma), or another medical condition and is not better explained by another mental disorder.

Diagnostic Features

The essential feature of childhood-onset fluency disorder (stuttering) is a disturbance in the normal fluency and time patterning of speech that is inappropriate for the individual's age. This disturbance is characterized by frequent repetitions or prolongations of sounds or syllables and by other types of speech dysfluencies, including broken words (e.g., pauses within a word), audible or silent blocking (i.e., filled or unfilled pauses in speech), circumlocutions (i.e., word substitutions to avoid problematic words), words produced with an excess of physical tension, and monosyllabic whole-word repetitions (e.g., "I-I-I-I see him"). The disturbance in fluency interferes with academic or occupational achievement or with social communication. The extent of the disturbance varies from situation to situation and often is more severe when there is special pressure to communicate (e.g., giving a report at school, interviewing for a job). Dysfluency is often absent during oral reading, singing, or talking to inanimate objects or to pets.

Associated Features Supporting Diagnosis

Fearful anticipation of the problem may develop. The speaker may attempt to avoid dysfluencies by linguistic mechanisms (e.g., altering the rate of speech, avoiding certain words or sounds) or by avoiding certain speech situations, such as telephoning or public speaking. In addition to being features of the condition, stress and anxiety have been shown to exacerbate dysfluency.

Childhood-onset fluency disorder may also be accompanied by motor movements (e.g., eye blinks, tics, tremors of the lips or face, jerking of the head, breathing movements, fist clenching). Children with fluency disorder show a range of language abilities, and the relationship between fluency disorder and language abilities is unclear.

Development and Course

Childhood-onset fluency disorder, or developmental stuttering, occurs by age 6 for 80%–90% of affected individuals, with age at onset ranging from 2 to 7 years. The onset can be insidious or more sudden. Typically, dysfluencies start gradually, with repetition of initial consonants, first words of a phrase, or long words. The child may not be aware of dysfluencies. As the disorder progresses, the dysfluencies become more frequent and interfering, occurring on the most meaningful words or phrases in the utterance. As the child becomes aware of the speech difficulty, he or she may develop mechanisms for avoiding the dysfluencies and emotional responses, including avoidance of public speaking and use of short and simple utterances. Longitudinal research shows that 65%–85% of children re-