Problems of Childhood

Speech problems

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British Medical Journal, 1976, 1, 635-637

It is a sad fact that children with severe speech problems rarely reach the speech clinician as early as one would wish; those that do usually belong to articulate, concerned parents. There seem to be several reasons for this. Muteness in a toddler is a normal social response to a stranger in a surgery or clinic and pressure of work often precludes the doctor from the lengthy business of making friends with a clinger or wrecker. Thus it is the child who is advanced enough to show that he has a speech problem who finds his way speedily to the speech therapist while a wait-and-see policy is all too often adopted for the young non-speaking child.

I propose to discuss here some of the common speech and language disorders that occur in children and put forward some suggestions on how the child with a problem can be identified and managed. I have used a classification loosely based on Ingram's.[1]

Disorders of voicing (dysphonia)

Hoarseness or huskiness results from a condition of the vocal folds or their nerve supply; the most common one in childhood being vocal nodules—small benign tumours on the cords. These occur after vocal misuse or chronic laryngitis and although they can be surgically removed they reappear unless there is a period of voice rest which is not welcomed by the 20th-century child.

The voice may have too much or too little nasality. Hypernasality occurs in children with an incompetent palatopharyngeal sphincter resulting from a short, cleft, or paralysed palate. It may also occur in the child with profound perceptive deafness since nasal sounds provide maximal feedback. Hyponasality occurs with a heavy cold, when large adenoid pads prevent nasal escape of air and sometimes with conductive deafness. Since environmental sounds are attenuated for the child with conductive deafness he compensates for the loudness of his own voice, which is reaching the auditory centre via bone conduction, by talking quietly and reducing nasal resonance. Such children should be referred to an ear, nose, and throat specialist.

Disorders of fluency

The onset of stammering in a child is a cause of considerable distress to parents, particularly if there is a family history. It is this very distress which seems to play a part in perpetuating the disorder unless positive advice is given early and the parents supported over this worrying period.

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Many children pass briefly through a stage of repeating sounds and words, usually at the time their vocabulary is limited and their grasp of syntax inadequate to express their ideas. Alternatively a period of stress may produce similar symptoms. It seems that audience reaction to the child's speech at this stage is critical, and if a furrowed brow or a request to "say it again slowly" causes the child to become aware of the disfluency the symptoms are quite rapidly exacerbated. Repetitions are replaced by tense "blocks" of the air stream and later other behaviour such as eye-blinking or foot-tapping is added in attempts to break through these blocks. Telling the parents to ignore the stammering is usually insufficient. It is important that they believe the doctor or speech therapist has heard the child at his worst before advice is given. They need to discuss their reactions to the stammering and often to be taught to listen with an air of unconcern. Positive tasks such as play or story sessions should be suggested for the child to have a parent's full attention at certain times. Early referral to a speech therapist is therefore suggested for this sort of advice and for regular reassurances that this is the best course of action. For the older stammerer speech therapy will include symptomatic treatment using a method such as syllable-timed speech to control the non-fluency. A survey of stammering in Newcastle revealed that 1% of children had a stammer which persisted into early adult life while 3 or 4% of school age children stammered for a period.[2]

Neurologically based motor disorders of the articulatory muscles (dysarthria)

The speed and precision of the movements required for speech is easily disrupted by muscular incoordination; slurred articulation may be the most obvious handicap in mild forms of cerebral palsy depending upon the muscle groups affected. In severe cases speech may never develop and alternative methods of communicating using mime or a Possum typewriter are urgent needs for the intelligent child. Preverbal pointers to dysarthria are delay in chewing, reduced babble, and prolonged and excessive drooling. Speech therapy will involve help with feeding problems and work on speech or mime, or both. Ingram[1] estimates that half the children with cerebral palsy have speech defects which are sufficient to impair their ability to communicate. Rutter and MacKeith[3] add that when children with the additional handicap of mental retardation are excluded, about two in five show some speech problem.

If possible a child with cerebral palsy should be under the care of a centre for handicapped children where he can be assessed and treated by a team of specialists.

Motor disorders of the articulatory muscles due to structural abnormalities

Children can adapt to minor degrees of structural abnormality such as missing teeth or tongue tie. More serious problems, however, such as inability to block off the nasal airstream during

speech, as occurs in abnormality of the soft palate, results not only in hypernasality but in distorted articulation as the child attempts to produce sounds that approximate to oral consonants. Closure of clefts is normally carried out before speech develops but further plastic surgery may be required later to provide the child with a competent sphincter. Speech therapy may then be needed to correct faulty articulatory habits. It should be remembered that there is a high incidence of conductive deafness among children with cleft palates owing to distortion of the Eustachian tube.

Language delay resulting from an identifiable aetiology

MENTAL RETARDATION

The globally retarded child will show delay in all aspects of language development, which is often relatively more delayed than other abilities. This is particularly so in institutionalised children or those from unstimulating homes. Speech therapists will assess the child and after psychological testing advise the parents and start treatment when there appears to be a discrepancy between language skills and other areas of intellectual functioning.

DEAFNESS

Profoundly deaf children are usually fairly easy to identify. It is more difficult with the child who has a partial hearing loss over certain frequencies or a fluctuating conductive deafness. The intelligent, partially deaf child grasps meaning from context, facial expression, and gesture; thus his presenting symptom may well be speech disturbance rather than behaviour indicating hearing loss, the pattern of his articulation being determined by the extent of his deafness. Rutter and MacKeith[3] indicate that the number of children requiring hearing aids is in the region of 2 per 1000 while 1 per 1000 have marked language retardation due to deafness. The child who has developed speech and is then deafened before the age of about 7 after brain injury or encephalitis will lose his speech unless specialised help is given. Such a child is likely to complain that he cannot speak properly rather than that he cannot hear properly.

Children with suspected hearing loss should be referred for audiological assessment through which they will reach a teacher of the deaf if appropriate.

ACQUIRED DYSPHASIA

Damage to the speech centres in the cerebral hemispheres of a speaking child will result in dysphasic symptoms resembling those in adults. Comprehension may be affected or expressive language may exhibit confusion over sounds or deviant sentence formation with "word-finding" difficulties. Acquired dysphasia in the young child is frequently characterised by a paucity of speech not unlike a mutism.[4] Progress depends on several factors and is particularly related to the age of the child when the damage occurs. In young children it seems that other areas of the brain can take over the language functions. Recovery becomes slower the older the child, and by about 14 this plasticity is no longer evident. Speech therapy can assist in the re-education process.

PSYCHIATRIC DISORDERS

There are some conditions which concern the personality of the child and the whole process of communication. A regression to a more infantile speech pattern may follow some emotional disturbance. The electively mute child has normal speech, or at least some speech, but only utters in certain situations, typically at home and not at school. A speech therapist who visits the home initially may be successful in getting the child to speak in places outside the home and finally at school. In intransigent cases psychiatric help will be required. The grossest disturbance of socioemotional development concurrently affecting language development is autism, a rare condition affecting some 3 in 10 000 children. For a diagnosis of autism Rutter, *et al*,[5] suggest that the following three features should all be present: (*a*) onset before 30 months of age of a disorder involving an autistic type failure to develop interpersonal relationships, (*b*) a delay in speech and language development, and (*c*) ritualistic and compulsive phenomena.

Early workers in the field were struck by the lack of communication between autistic children and their mothers and hypothesised an aetiology of "cold mothering." The overwhelming evidence now, however, is that autism is a response to a gross perceptual defect affecting the child's comprehension of social stimuli (such as smiling) and later symbolic material of all kinds, particularly evident in the failure to understand language. Intensive help and structured special schooling are needed to help the child make sense of his environment and the parents will need much support.

ADVERSE ENVIRONMENTAL FACTORS

Any factor that seriously reduces a child's share of warm one-to-one interaction with a familiar adult or adults is likely to retard language development. Such factors are institutionalisation, large families, deaf parents, mothers with depression or other mental illness, and poor child-minding arrangements. It is the quality of adult/child communication in poor homes that is the important point to establish, not the poverty itself. The middle class child in the care of a succession of au-pair girls may be more environmentally handicapped for language development than many poor children. Since social class IV and V adults are often rendered inarticulate in a clinic several home visits by the health visitor, doctor, or speech therapist may be necessary to discover the child's effective language environment. There is a danger in attributing severe language delay solely to environmental causes, particularly if there is comprehension deficit. Since there is evidence of increased perinatal risk among the poor[6] it seems likely that there will be a higher than average incidence of children with biologically based speech and language disorders. This group will need structured intervention based on their individual deficits rather than mere exposure to a more stimulating environment.

Developmental language disorders

The term developmental language disorders is reserved for those language delays and disorders where the above mentioned categories are ruled out as the principal cause; that is, language is specifically delayed. There is frequently a family history. The most severely affected children are those who fail to develop normal comprehension. Such children are rare, less than 1 in 10 000 is severely affected.[3] They may show erratic responses to sound and are often behaviourally disturbed. In other cases comprehension develops more normally and it is language expression that is impaired either at the stage of sentence formulation or at the level of organising sounds into words. Prevalence of the severe form of the disorder is 1 per 1000 among school-age children.[7] There are now some schools in Britain which cater exclusively for children with severe language handicap. More mildly affected children may cope in normal schools with help from a speech therapist.

Identifying and managing the child with speech problems

The above classification is based on causes, but there are, of course, combinations of disorders from the different categories.

When attempting to identify the child in need of help, assessment may be best approached by regarding language as a hierarchically organised skill and isolating the level of breakdown. To do this the child must be put at his ease to achieve a near-optimal level of communication and language use. It is essential for the observer to descend both physically and linguistically to the child's level. The mother can be usefully included if not too overwhelmed by the sight of the doctor on the floor. The most useful assessment material for young children of both sexes (aged about 2-5) is dolls' house furniture and a miniature family laid out on a low table. For younger children or those who fail to use this material appropriately—due, for example, to mental retardation, failure to develop understanding of symbolic material as occurs in autism, or unfamiliarity with similar material—life-size familiar objects such as a brush, cup, spoon, or large doll should be presented. Pictures are usually the least useful method of getting representative language samples from preschool children. Play material that is fascinating to a child is likely to provide maximal information more quickly than any attempt to administer a screening test which taps only a narrow aspect of speech or language and which will render unreliable results unless the child is perfectly at ease. The observer can assess the child's social responses, his attachment to his mother, eye contact, facial expressions, gesture, play (particularly its symbolic content), responses to sound, responses to voice, and comprehension of language. When assessing comprehension it is important to check that the child is not merely responding to tone of voice, facial expression, eye pointing etc, thus specific requests using toys which begin simply and become more complex should be used. The child's utterances may be noted down to give information about syntactic development and finally intelligibility both in and out of a known context. This assessment can be used in conjunction with established developmental norms such as those collated by Mary Sheridan[8] or Ruth Griffiths.[9]

As a general rule referral cannot be too early, especially since for many children the path from general practitioner to speech therapist is via a paediatric consultant's outpatient waiting list. Also in some cases—for example, where mental retardation is suspected—a series of investigations may be needed involving several disciplines. Linguists and psychologists have added to the assessment techniques available to the speech therapist. Early assessments act as a yardstick and help the decision about when to start treatment and what form this should take. Parents frequently latch on to the tip of the iceberg and attempt to correct articulation where a far more fundamental problem exists. Early advice can prevent the picture being complicated by behavioural disturbances and can help to focus attention where it is most needed.

Nursery school is often recommended for the late talker. The immature, the aggressive, or the very active child often makes considerable gains in social development besides relieving the mother for a few hours. The child from an unstimulating home makes cognitive advances. The progress made by the language-delayed child, however, depends on such factors as the extent of his handicap, his personality, the child:staff ratio in the nursery, and the help he would be getting at home. Certainly some children benefit greatly from placement at some nurseries. The child with a *severe* language handicap, however, too often ends up alone on the climbing frame, dreams through story time, or becomes disturbed at his inability to make himself understood to strangers.

Unfortunately the child most likely to benefit from nursery education—the "deprived" child—is the one least likely to attend very regularly. The National Child Development Study[6] has highlighted the wider issue of such children's non-attendance at clinics, a problem familiar to speech therapists. Indeed it is entirely unrealistic to expect some families to keep regular clinic appointments over a long period. The only way for the speech therapist to assess and treat such children is in their homes. It is, moreover, to be hoped that all doctors working in poor areas will increasingly see it as their role to make greater efforts to reach the handicapped children of poor families.

References

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7 Rutter, M, Graham, P, and Yule, W, *Clinics in Developmental Medicine*, no 35/6. 1970.
8 Sheridan, M D, *The Developmental Progress of Infants and Young Children*. London, HMSO, 1968.
9 Griffiths, R, *The Abilities of Young Children*. London, Child Development Research Centre, 1970.

What is the treatment and prognosis in a histologically proved case of dermatomyositis in which no malignancy has been found in a middle-aged woman?

Rest is important in the acute phase. If the muscle weakness affects respiration or swallowing emergency supportive measures including tracheostomy with assisted respiration and tube feeding may be necessary. While there are no contraindications most doctors still prefer corticosteroid treatment. The initial dose is not usually less than 40 mg prednisolone a day and may be as high as 100 mg. The dose is adjusted according to clinical, and if possible, enzymatic (serum creatine phosphokinase, aldolase, and transaminases) improvement. Usually the high dose is required for about a month and then reduced in 5 mg a day steps each week. When the dose has been reduced to about 20 mg a day it is wiser to reduce by 1 mg a day. Continued monitoring of the treatment is essential as steroid-induced hypokalaemia may cause weakness as well as myositis. If corticosteroids are ineffective or contraindicated then immunosuppressive treatment may be tried.[1-3] Some doctors prefer this. Methotrexate, cyclophosphamide, and azathioprine have all been used successfully, but effects on the liver or renal function must be considered. Supportive treatment should be with regular acetylsalicylic acid during the acute phase and graded physiotherapy during recovery. Patients of this age need a thorough recheck for carcinoma every six months or earlier if suspicious clinical features occur. Where there is no carcinoma the prognosis is favourable. The above measures control 60-70% satisfactorily.

1 Rowell, N R, in *Textbook of Dermatology*, ed A Rook, D S Wilkinson and F J G Ebling, 2nd edn, p 1130. Oxford, Blackwell, 1972.
2 Pearson, C M, in *Arthritis and Allied Conditions*, ed J L Hollander and D J McCarty, p 958. Philadelphia, Lea and Febiger, 1972.
3 Metzger, A L, *et al*, *Annals of Internal Medicine*, 1974, **81**, 182.

Patients with diverticulosis are sometimes unhappy about using the plain coarse bran as part of their prophylactic treatment. Do proprietary brans have a formulation which is effective in treating colon disorders?

There are no gross differences between the formulation of the proprietary brans. At most there will be a 15% difference in the dose. Some of the brans contain rather a high proportion of flour and starch but this may be corrected by eating slightly more. Of course, if the patient is using bran to prepare an item of food, such as biscuits or porridge, the difference in flour content will make a great difference to the "cookability" of the bran. This is certainly a matter for individual experimentation.