

What teachers need to know about the impact of ear disease and hearing loss on children's learning and development



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Raising awareness about ear health among primary schoolchildren.

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Teachers are in a unique position to spot early signs of ear disease or hearing loss, and inform children and parents about the importance of early intervention. This article presents messages that can be used by ear and hearing care workers to advocate for the involvement of schools and teachers in ear and hearing health interventions.

Common causes of ear disease and hearing loss in schoolchildren

Difficulties in hearing may be present from birth or acquired during childhood or adult life and may be mild or very severe.

If present at birth, hearing difficulties could be **inherited** from one or both parents, or be the result of **infections** or **medications** during the mother's pregnancy or problems around the time of birth.

Hearing loss acquired by a school-age child may be due to treatable causes such as **wax**, **foreign objects** inserted into the ear canal, or **infections** such as otitis media which affects the middle ear. In a chronic middle ear infection, a discharge may be noticed coming from one or both ear canals.

Permanent hearing loss may also be acquired in childhood due to **infections** such as meningitis, measles or mumps.

Permanent hearing loss may also be due to exposure to **noise**, such as the loud noise from fireworks or from listening to loud music, especially when it is played directly into the ear through earphones.

Effects of ear disease and hearing loss on learning

Impact on children's communication skills

Infants and young children:

Babies usually learn language effortlessly, when parents talk both to them and to those around them. During the first year of life children develop listening skills and use them as a basis for babble, with first words typically emerging at 12–15 months.

For a child with any degree of hearing loss, the loss of sound stimulation will disrupt the development of communication skills. When words are only partially heard or not heard at all, language and communication skills will be slow or may not develop. This will depend on the degree and type of deafness. A child who is deaf or hard of hearing thus starts school at a disadvantage unless early intervention has been provided and is likely to need additional help in class.

School-age children:

A child who has difficulty hearing may quickly lose interest in the lessons being given. Those children who have a moderate or severe hearing loss may not want to attend school at all, as they are not only unable to hear the teacher but cannot hear other children speaking in class or in the play area. They may not hear warnings and could be at risk in the event of a fire or other emergency.

In some low- and middle-income settings, children often suffer during their school years from recurrent episodes of otitis media, which result in temporary hearing loss. This means that they can spend a considerable time each year with a hearing deprivation equivalent to a mild or moderate hearing loss. This can severely affect attention span, the acquisition of language, and reading and writing skills.

Impact on behaviour and social life

An unrecognised deafness can seriously affect a child's psychosocial development. They will not understand comments or requests and may get into trouble with parents or neighbours because of this. They will find it hard to understand why parents or teachers are angry or upset. Understanding other children will be hard, causing the children with hearing loss to be left out of games; they may be bullied because they are perceived as different.

Schoolchildren with hearing difficulties may not only appear inattentive and disobedient but also start to behave badly. (Children with a middle ear infection may behave better on some occasions than others, as the condition fluctuates.)

Continues overleaf ➤



PATRICIA CASTELLANOS DE MUÑOZ

Letting a child play with the otoscope before screening for ear and hearing health in a school. GUATEMALA

Deaf children may be very withdrawn or display unacceptable behaviour such as pushing, pinching or biting. These children are often thought to have a learning disability rather than a hearing loss.

Teachers need to be made aware that a deaf child is more likely to suffer physical, sexual and verbal abuse than a hearing child, as they are unable to complain. Withdrawal and disobedience, especially if the child has bruising, may be an indication of some form of abuse. If a teacher suspects this, then it is important to liaise with the appropriate welfare authorities and not follow it up personally.

The importance of early intervention

Early intervention in case of hearing loss

If permanent hearing loss is identified before six months of age and deaf children are given access to well-fitted amplification (used and checked regularly), these children can (and do) learn to speak, read and go to their local school. Deafness does not have to

mean that a child will not be able to speak, but it does mean they will need access to sound by using assistive devices. Regardless of amplification, the more severely deaf children benefit from additional signed communication.

If a child's hearing loss is identified late, aged six years or older, all the most important years for learning language have been lost. Progress will be made but it will be more limited. The earlier the hearing loss is found, the earlier help can be provided. If treatment is not possible, hearing devices can be used to amplify sound, e.g. hearing aids. Where possible, a wireless link may be used in addition, to enable the teacher's voice and those of other children to be heard more clearly. Some children with a very severe hearing loss may be able to have a device inserted into the cochlea in the inner ear (a cochlear implant), which is connected to a speech-detecting device and sends signals to the brain representing the sounds heard. It is worth mentioning that cochlear implants, and especially rehabilitation afterwards, are very expensive.

Early treatment of ear disease

Early treatment of ear diseases could prevent a condition which is causing temporary hearing loss from becoming a more permanent one with worse consequences for the child concerned. Several treatable causes – such as wax, foreign bodies in the ear canal, or infections such as otitis media – can be addressed at the primary health care centre. For example, early suspicion of and conservative management of an acute otitis media would significantly reduce the risk of developing an otitis media with effusion or a chronic otitis media (which would require more complex specialist treatment in order to avoid permanent hearing loss).

Another effective measure for early intervention at school level is the promotion and endorsement of the country's Expanded Programme on Immunisation (EPI), particularly for the prevention of infections such as meningitis, measles, mumps or rubella through adequate vaccination.



SHEELI CHADHA

Otosopic examination during a screening camp for schoolchildren. INDIA

WHAT TEACHERS NEED TO KNOW ABOUT ASSISTIVE DEVICES FOR CHILDREN WITH HEARING LOSS

- Hearing aids and/or cochlear implants do not restore normal hearing, but amplify and transmit sound using alternative methods. Schoolchildren who use hearing aids may not be able to hear all of the sounds of speech even when it is quiet and the speaker is close by.
- If there is **any** background noise, the child will almost always miss some of what is said in the classroom, as hearing aids will not distinguish between speech and noise.
- Hearing aids or cochlear implants allow most wearers to perceive speech occurring **within a distance of 3 to 6 feet**. Imagine a transparent bubble over the child that is 6 feet in diameter. Any speech from farther away will likely be 'heard' but not all of the parts of speech will be perceived.
- A schoolchild may 'hear' but not completely understand what was said because pieces are missing and it takes extra effort to figure it out. Language delays make this even more challenging.
- Children with a hearing loss affecting the inner ear may have a problem called 'recruitment', in which a small increase in the loudness of a sound is perceived as being very loud. This is an unpleasant experience for the child and can also result in speech sounds being more distorted.

Learning with a hearing loss in a mainstream school

There may be children with hearing loss in the classroom, some of whom may have access to assistive devices. Health workers should explain to teachers that although these devices facilitate learning, they do not restore normal hearing (see Box on this page).

Whether children have access to assistive devices or not, their learning will always improve if teachers implement the measures described on pages 7–9 of this issue. These will benefit all schoolchildren, not just those with hearing difficulties.

Teachers should be aware that a child with a hearing loss may also have other sensory problems, e.g. sight problems, which if undetected can more than double their disability in the classroom.

Finally, it is worth remembering that teachers play a very important role in the life of a deaf or hard of hearing child, as a good education is the road by which many will be successful in later life.