



Community outreach
in a school setting,
PHILIPPINES

ROSARIO R. RICARDE

Increasing community awareness of ear and hearing health



Shelly Chadha
Medical Officer for
Hearing Impairment
World Health Organization,
Geneva, Switzerland

Despite 360 million persons¹ in the world living with disabling hearing loss,* there remains a surprising lack of awareness in society about ear diseases and hearing loss.

One of every three individuals above 65 years of age has a hearing loss,¹ yet fewer than 3% of people receive the hearing devices they require.² Up to 330 million people across the world are affected by chronic otitis media manifesting as a discharging ear.³ Ignorance is a key contributor to the current situation, where a high prevalence is compounded by poor availability of services and of human as well as financial resources for ear and hearing health.

Raising awareness: a neglected priority

In order to improve the situation, what we need is a coordinated and sustained effort to raise awareness at all levels. Governments, policy makers and international agencies need to be targeted through effective advocacy, as do health care professionals and the community at large. Advocacy at the highest level can drive change at the grass-root level, and raising awareness within communities can create an enlightened society – a social movement for championing ear and hearing health.

We need to motivate health professionals working in the field of ear and hearing to bring services to the community level. Systematic training is required

amongst primary health care professionals to further raise awareness about common ear and hearing problems: their causes, prevention, identification and management. Most importantly, communities must be empowered with the knowledge of simple preventive strategies that would ensure their continued or improved hearing health.

Pertinent issues for raising awareness include the growing magnitude of the problem and its common causes, simple and effective prevention strategies, consequences of inaction and benefits of timely intervention. All means of communication available and relevant need to be used – person-to-person communication, print media, posters and electronic media – to convey the need for, methods and benefits of good ear and hearing health.

The World Health Organization can play a lead role in gathering evidence and developing evidence-based strategies as well as tools for creating awareness. With the support and collaboration of all those involved in the care of persons with ear conditions and hearing loss, as well as the persons themselves, we must approach ear and hearing health as a social challenge and not merely as a fight against disease.⁴

¹ WHO, MBD. Global estimates of hearing loss. Geneva: WHO, 2012.

² WHO. World Report on Disability. Geneva: WHO, 2011: 102.

³ Chronic suppurative otitis media: burden of illness and management options. Geneva: WHO, 2004.

⁴ Olusanya BO. Int J Pediatr Otorhinolaryngol 2000;55: 167–171.

***Disabling hearing loss** is defined as hearing loss greater than 40 dB in the better hearing ear in persons more than 15 years of age and greater than 30 dB in persons up to 15 years of age.

What health workers need to know to

IN THIS ISSUE

Increasing community awareness of ear and hearing health
Shelly Chadha **1**

What health workers need to know to raise awareness about ear and hearing health
Robin Youngs **2**

Raising awareness to empower communities to take action **4**

Key messages to raise awareness of ear and hearing health in the community
Diego J Santana-Hernández **6**

CASE STUDIES

West Nepal **8**

Canada **9**

Namibia **10**

Obituary: Dr Piet van Hasselt **10**

The effect of noise on hearing **11**

How to take care of your ears **12**



Robin Youngs
Consultant Otologist
Director BRINOS
(Britain-Nepal Otolaryngology Service), United Kingdom
www.brinos.org.uk

Ear disease is extremely common and its principal effect is hearing loss. The potential impact that ear disease can have on an individual, family or community, is profound. Children with disabling hearing loss often fail to develop normal speech and language. Adults with disabling hearing loss may have problems securing employment, and the positions they do secure are less well paid. Elderly people with hearing loss can become socially isolated and withdrawn.

Because hearing impairment is an invisible disability and ear disease, except in rare cases, is not fatal, both are frequently neglected by health personnel who are already very busy dealing with other seemingly more important health problems. Communities do not consider ear and hearing health a priority and, in addition, families often regard hearing impairment as a social stigma. Improved awareness, both on the part of the community and of the health worker, plays a key role in preventing problems and in reducing their impact:

- Many ear and hearing problems can be prevented by simple measures.
- When provided early, treatment may lead to complete or partial recovery and/or stabilise residual hearing levels.
- Lack of treatment can have severe consequences.

Major causes of ear disease and hearing loss

Ear disease can affect any age group. The major causes of hearing loss are listed in Table 1 opposite.

Congenital deafness

Children can be born deaf. This can be due to maternal infections such as rubella, syphilis and



Listening to a talk about ear and hearing health. PHILIPPINES

ROSARIO R. RICARDE

cytomegalovirus. Genetic predisposition to deafness can also occur. Genetic deafness can be part of a 'syndrome' with other congenital abnormalities. Consanguinity, particularly in the case of marriages between first cousins, is an important risk factor in genetic deafness. Extreme low birth weight and birth hypoxia can be associated with hearing loss, as can neonatal jaundice.

Infections in childhood

Some are important causes of hearing loss, particularly meningitis, measles, and mumps. Meningitis can cause bilateral profound hearing loss, because of its effect on the inner ear and its connections with the brain.

Disorders of the external ear¹

Probably the most common causes of hearing loss are wax accumulation and otitis externa (infection of the external ear). In addition, foreign bodies in the ear canal can cause hearing loss as well as discomfort. These conditions are mostly treatable, with the hearing loss being completely reversible.

Middle ear conditions¹

'Glue ear' (the presence of sterile fluid in the middle ear, also called middle ear effusion) is an important cause of hearing loss. It can also lead to a middle ear infection (known as 'otitis media'). Chronic otitis media (COM) is a major cause of



This journal is funded by CBM



Editor

Dr Paddy Ricard

Editorial committee

Professor Andrew Smith (Chair)

Dr Ian Mackenzie

Professor Valerie E Newton

Dr Padman Ratnesar

Dr Diego J Santana-Hernández

Regional consultant

Dr Jose M Acuin (Philippines)

Editorial assistant

Joanna Anderson

Design

Lance Bellers

Printing

Newman Thomson

Online edition

See 'Publications' on <http://disabilitycentre.lshtm.ac.uk>

How to subscribe

The journal is sent free of charge to readers working in low- and middle-income countries. To subscribe, please send your name, occupation, postal address, phone number and email address to: Joanna Anderson,

Community Ear and Hearing Health, International Centre for Eye Health, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, United Kingdom. Email: Joanna.Anderson@lshtm.ac.uk

We recommend that readers in high-income countries make an annual donation of UK £10. To subscribe, please contact Joanna Anderson (as above).

Correspondence

Please send all enquiries to: Joanna Anderson (for contact details, see left).

Copyright

Articles may be photocopied, reproduced or translated, provided they are not used for commercial or personal profit. Acknowledgements should be made to the author(s) and to *Community Ear and Hearing Health*.

raise awareness about ear and hearing health

long-term hearing loss, and is much more common in low- and middle-income countries (LMIC). In this condition, there is a perforation of the eardrum, which allows microorganisms to enter the middle ear, resulting in a persistent purulent discharge and hearing loss. It can sometimes be caused by tuberculosis in LMIC where the infection is common. It may also be a marker for HIV/AIDS.

Neglecting COM can lead to catastrophic, even fatal, complications – such as meningitis, brain abscess and facial paralysis – particularly when sufferers do not have access to specialised medical care.

Use of ototoxic drugs

The use of certain drugs has potentially harmful effects for the ear. This is known as ototoxicity and is an important cause of hearing loss and balance problems. The most commonly used ototoxic drugs are aminoglycoside antibiotics (e.g. gentamicin), which are frequently given to young children to treat fever in LMIC, where their use is often unregulated. Other ototoxic drugs include some of the medications used for the treatment of malaria, tuberculosis, leprosy, cancer and HIV/AIDS. Some industrial chemicals (e.g. solvents) are also ototoxic.

Exposure to excessive noise

This can damage the inner ear and is a major cause of hearing loss (see page 11) in adults of working age. The degree of hearing loss depends on the length and intensity of noise exposure and on individual susceptibility.

Most noise damage occurs in people working in heavy industry, construction and the military. The damage caused by noise can be prevented by good hearing protection strategies, including the use of ear defenders.

There is also concern over recreational noise exposure in young people, especially the use of personal stereos with headphones at high volume, and over environmental noise exposure in residential areas, such as that caused by heavy traffic, airports, industry, music establishments, etc.

Presbycusis

The degeneration of the inner ear with advancing age (presbycusis) is also a major cause of hearing loss. The World Health Organization estimates that nearly one-third of people aged over 65 live with disabling hearing loss. These people are frequently socially isolated and adequate rehabilitation with hearing aids, if available, can be extremely effective.

The role of poverty and malnutrition

Poverty and malnutrition increase the likelihood of ear disease and hearing loss. Malnutrition impairs people's immunity, which makes them prone to infections, especially of the ear, nose and throat. The availability of clean water supplies and good sanitation is also important in reducing the occurrence of discharging ears.

How to take care of your ears

Health workers can play a key role in teaching patients how to care for their ears and discouraging practices that may be harmful.

These simple measures should help maintain ear health and prevent the occurrence of ear disease:

- Personal hygiene is always important, including hand washing before eating or preparing food and after going to the toilet.
- Do not swim or wash in dirty water. This may allow the entry of microorganisms into the ear and cause ear infections.
- If there is discharge from the ear, it is important to keep the ears completely dry (but do not block the ear with cotton wool). There may be a perforated tympanic membrane with chronic otitis media. If the discharge continues for more than a few days, you should seek treatment from a health centre.
- Do not introduce objects into the ear, particularly cotton buds. This can cause wax impaction and produce hearing loss, as well as ear infections.
- Only ear medicines obtained from a nurse, doctor or other legitimate healthcare worker should be taken, at the correct dosage.
- Herbal remedies and 'ear candles' are potentially harmful and should not be used.
- Avoid exposure to potentially harmful levels of noise at home and at work. When exposure is unavoidable it is vital to wear ear protection, such as ear plugs.

Why it is important to consult early

When ear problems are suspected it is important to seek help and advice at an early stage.² The box on page 6 of this issue lists the situations when you should consult a doctor. Early treatment will ensure a much better outcome.

Many causes of hearing loss in the early stages of life are reversible if correct advice, diagnosis and treatment are given. If hearing loss in children is not detected and treated, they may not develop normal speech and language, especially when the hearing loss occurs in the first or second year of life, resulting in an unnecessary disability that will hamper them for the rest of their lives.

TABLE 1. MAJOR CAUSES OF EAR DISEASE AND HEARING LOSS

Note: Preventable or treatable causes are shown in purple

Maternal infections

- Rubella
- Syphilis
- Cytomegalovirus

Genetic conditions

Hereditary conditions and chromosomal abnormalities

Perinatal conditions

- Low birth weight
- Neonatal hypoxia
- Neonatal jaundice

Childhood infections

- Meningitis
- Mumps
- Measles

Nutritional causes

e.g. iodine deficiency

Trauma to the head

e.g. from traffic accidents

Obstruction of the ear canal

- Wax
- Otitis externa
- Foreign body

Middle ear conditions

- Serous otitis media (glue ear)
- Otitis media
- Chronic otitis media

Damage to the inner ear

- Ototoxicity
- Excessive noise exposure
- Age-related inner ear degeneration (presbycusis)
- Ménière's disease

¹ 'External ear' designates the 'visible part' of the ear, as well as the ear canal. 'Middle ear' refers to the eardrum and ossicles situated right behind it.

² For advice on addressing ear and hearing complaints at primary level, see: Community Ear Hearing Health vol 9 issue 12 (2012).

Raising awareness to empower communities to take action

This article was compiled by **Paddy Ricard**, with the help of practical tips on raising community awareness by **Hannah Ayukawa, Heide Beinbauer, Valerie Newton, Padman Ratnesar** and **Andrew Smith**.

We should not assume that once people have been informed about what can be done to maintain or improve ear health, they will then change their behaviour accordingly. In practice, this is rarely the case.

Firstly, simply delivering a health message does not ensure that it has been understood. Secondly, even when your messages are understood by the community, an awareness of the factors affecting ear and hearing health is only the first stage towards adopting healthier behaviours. Individuals must then be willing to try a new behaviour and have the means – or be given the means – to do so. Finally, they must adopt the behaviour until it becomes a routine habit.

The challenge of changing behaviour

Obstacles to behavioural change

We all find it difficult to change our behaviour, even when we know it will improve our health or quality of life. For example, in a high-income country with straightforward access to services, a hearing-impaired person might put off being fitted for a hearing aid because they are embarrassed to admit to themselves or show to others that they have a hearing loss. Changing behaviour is difficult for many reasons:

- Many of our daily health habits are automatic. To change behaviour, people must act consciously: this requires focus, time and commitment, which might be in short supply, particularly when our living conditions are difficult.
- In smaller communities, particularly, people tend to be 'stuck' in traditional or social hierarchies and are often reluctant to really take initiative or challenge the system.
- Behavioural change usually requires new resources or a re-allocation of existing resources (e.g. building latrines, travelling to a health centre, buying ear protection). This is more difficult when resources are scarce or people have little control over them.

Factors enabling behavioural change

Facts for Life, a resource on maternal and child health produced by a coalition of international bodies such as UNICEF and the World Health Organization, summarises the success factors for changing behaviour: People are more likely to change their behaviour when:

- They are encouraged to discuss a health message among themselves and to ask questions to clarify their understanding.
- They have been shown, and fully understand, how they, their family and community will benefit from changing their behaviour.
- The language used to communicate with them is familiar and compatible with the local culture and social norms, avoiding judgmental or prescriptive-sounding 'orders'.
- The person presenting the message or the source of information is well known and trusted.

- They hear repeated, simple and consistent messages from different sources.
- They are given time to change, especially if the change carries a cost, such as the installation of latrines.¹

Engaging with the community

Most of the factors essential to behavioural change require a two-way communication process between the health worker or health educator and community members. An ongoing dialogue will allow you to:

- Ensure your health message has been understood.
- Build trust and mutual respect.
- Understand the community's current behaviours, preoccupations, and living conditions.
- Become aware of obstacles to behavioural change and find acceptable solutions with the community.
- Empower the community to take charge of their own health.

Involving the community in practice

Recruiting local collaborators

- If you do not belong to the community or do not know it well, enlist the help of a person who does and who fully understands the aim and methods of what you are trying to do (and possibly some of the technical aspects).
- If you do not speak the local language, it will also be essential from the outset to enlist the help of a reliable and well-educated translator.
- Involve, or at least get the approval of, the local health system if you are not part of it, and get the help – or at least the acquiescence – of local health personnel.

Respecting the structure of the community

Make an effort to understand how the community is organised. It is important to establish and use the correct channels of communication, e.g. through the local headman, the regional councillors, etc.

Identify community leaders on various levels (political, traditional, church). Engage with them, e.g. by asking them what they do, listening to their concerns and suggesting what they can do for the community. They are very likely to ask others to join them.

Once you have engaged with leaders, contact other members of the community. This can be done in many ways: home visits; meetings with parents, mothers and workers. If you get the children to trust you, the elders will be more likely to work with you. It is also important to speak to hearing-impaired people in the community and to ask them to be advocates for your campaign.

Asking questions and understanding behaviour

Whilst you may think that your health message is too important not to be acted upon, community members may have more pressing concerns requiring their attention. They may also think of practical or cultural reasons why they cannot follow your advice. It is therefore important to ask people what they

CLASH



Posters can help highlight your message. NAMIBIA



Raising awareness in schools.

CHINA

want rather than telling them what you want. Find out about the community's needs, preoccupations, living conditions, and the difficulties they would face if they were to change their behaviour.

You should also enquire about the community's current behaviours in relation to health (do they go to traditional healers first? what are their main health concerns?). Knowing this 'baseline' behaviour will help you determine whether there has been any change later.

You may also find it useful to conduct a Knowledge, Attitude and Practice (KAP) survey, or organise focus group discussions and structured interviews.²

Encourage ownership

You may know what community members should be doing differently, but they hold the key to how this can be achieved in their context.

Try putting community members 'in charge' as they know best what might work in their particular circumstances. Empower them to find solutions, identify individuals with leadership skills and form coalitions of the willing.

Often, once members of the community have developed a greater awareness for a specific topic, they tend to identify other areas of concern. They also start trusting each other, and

helping each other more than before they took action together to improve their health.

“Raising awareness and empowering people to take action is a long-term endeavour, requiring a variety of means of communication”

Communicating your message

Key principles

- **Simplify messages.** Use simple and practical language, be brief and avoid technical details.
- **Break down information into 'digestible' bits** that can easily be put into practice by your audience in their context. Giving out too many recommendations at once can be confusing, overwhelming or discouraging.
- **If needed, adapt your health message to your context.** For example, state how a change of behaviour will benefit this particular community.
- **Pre-test your message** on a few community members or on a small community and make necessary adjustments before circulating it more widely.
- **If needed, use reliable translators** to translate your message into local languages.

Interpersonal communication

Group meetings or one-to-one communication allow for more interaction with community members and encourage ownership. The following may be helpful:

- **Visual aids (such as drawings, posters or writing on a board)** help your audience to understand what you are talking about and remember the content of your message.
- **Videos are particularly useful** and, in the present age, people tend to expect audiovisual presentations. You might also consider filming some demonstrations and discussions to encourage participation and show at a later date.
- **Demonstrations, perhaps with the help of a colleague,** can be helpful when speaking to a group. For example, you could show what it is like to have a hearing loss, or show what happens when people have their hearing tested at the clinic. When demonstrating an action you want people to replicate, audience participation is essential.
- **You can give your audience a leaflet or information sheet to take home** and read, which will help them remember your message.
- **SMS reminders** can be used to inform people of meeting dates and locations. Mobile phone use is widespread and people tend to keep their numbers.
- **Consider organising some of your meetings in locations that are relevant to your message.** E.g., in the Inuit community where noise-induced hearing loss is a major problem, the audiology team (see page 9) attends loud music concerts to give information about noise damage and distribute earplugs.
- **Think of more playful ways to engage people.** For example, you could organise the performance of a short play. You could also organise a raffle in which people must fill out a form about noise effects to participate.

Mass media

- **Explore what media works best for your community.** Ask them how they usually communicate, where they get their news from and which media have their preference. It might not be the print media if illiteracy is an issue or if people can only speak but not read a local language. Perhaps they would respond to community radio or an SMS campaign.
- **Make your message clear, simple and easy to remember.** For example, CLaSH (see page 10) used the following catchphrases for radio adverts and banners: 'No hearing does not mean no sense', 'My eyes can hear, my hands can talk'. You could also refer to Helen Keller's observation that, if blindness cuts us off from things, deafness cuts us off from people.
- **Make sure your message is broadcast at an appropriate time,** when your target audience is usually listening or watching.

Conclusion

Raising awareness and empowering people to take action is a long-term endeavour, requiring a variety of means of communication. Involving community members will enhance your chances of success and help you overcome some of the obstacles to changing behaviour.

¹ *Facts for Life* contains a useful and practical chapter on changing behaviour, which can be found online: <http://www.factsforlifeglobal.org/00/guide.html>

² For an example of how to conduct a KAP survey, see: http://www.stoptb.org/assets/documents/resources/publications/acsm/ACSM_KAP%20GUIDE.pdf

Key messages to raise awareness of ear and hearing health in the community



Diego J Santana-Hernández

ENT Surgeon
CBM's Senior Advisor for Ear and Hearing Care and Coordinator of the EHC Advisory Working Group; Santa Cruz de Tenerife, Spain

Health professionals and community workers, particularly in primary health care, have the responsibility to make sure communities are aware of ear and hearing health. They can raise awareness by explaining and demonstrating how to prevent ear disease and hearing loss and how to identify problems and seek advice early.

It is helpful to tailor health and prevention messages to the people you are addressing, by considering what risk factors they are exposed to and what actions they can take to protect their own ears and hearing.

Raising awareness amongst maternal and child health workers

Health workers involved in infant and maternal care should be made aware of the preventive measures that can be taken at the following stages to avoid ear and hearing problems:

Before or during pregnancy

- Immunise children, young women and women of child-bearing age against rubella (WHO recommends to only start a rubella immunisation campaign when a coverage of at least 80% can be attained and to avoid immunisation during pregnancy).
- Enquire about any history of hereditary hearing loss in the family.
- Encourage women to attend all their prenatal appointments and check-ups.
- Instruct mothers on the prevention of toxoplasmosis during pregnancy.
- Prevent and/or treat syphilis before or during pregnancy.
- Highlight the importance of good nutrition during pregnancy.

- Provide dietary supplements during pregnancy (iodised salt, folic acid, iron when indicated, etc.).
- Avoid ototoxic medications during pregnancy.
- Identify the presence of herpes in the mother before delivery.

Perinatal care

- Promote delivery by midwives or health professionals.
- Promote delivery at healthcare centres or hospitals.
- Promote hygiene during delivery (e.g. suspect cytomegalovirus).
- Identify congenital ear malformations and refer early.
- Identify very low birth weight (under 1.5 kg) and refer.
- Identify extreme prematurity (less than 7 months of pregnancy) and refer.
- Identify and treat neonatal jaundice.
- Avoid the use of ototoxic medications.

Infant care

- Promote breastfeeding.
- Promote basic hygiene (e.g. hand washing).
- Promote ear care: e.g. mothers should avoid introducing anything in the ears (see next paragraph and pages 3 and 12).
- Promote the prevention of ear disease at home (see next paragraph).
- Immunise against tuberculosis.
- Immunise infants against measles, mumps and rubella (MMR).
- Immunise against *Haemophilus* and *Pneumococcus*.
- Avoid using ototoxic medications.

Protecting your ears and hearing at home

People are often unaware that it is not health professionals who are in the best position to prevent disease, but the persons themselves.

Below is a list of messages to introduce the concept of 'Prevention at home':

- It is important to allow your child to be immunised with all vaccinations included in your local health programme, as many times as advised.
- Breastfeeding your child helps prevent infections and provides them with good nutrition.
- When you cook, make sure there is adequate ventilation for the smoke to dissipate quickly.
- Avoid smoking inside the home (ideally do not smoke at all).
- Clean the house regularly.
- Protect yourself from mosquitoes by using bed nets, especially for children.
- Avoid exposure to loud noise and to industrial solvents, as both can damage the ear.
- Do not use Q tips (cotton buds) or put any hard object in the ear.
- Do not allow dirty water inside the ear (dirty rivers or swamps).

WHEN TO CONSULT A DOCTOR ABOUT YOUR EARS AND HEARING

A good outcome is much more likely if you see a health professional as soon as possible. You should consult a doctor in the following situations:

- Discharging ear*
- Bad smell emanating from the ear
- Continuous itchiness or scratching of the ears
- Redness or swelling of the ear or surrounding area
- Earache (with or without fever)
- You think you may have a foreign body stuck in your ear
- You feel that your hearing is poor, e.g. you have problems taking part in everyday conversation
- You think your child cannot hear everyday sounds
- Your child is not developing speech and language at the same rate as children of a similar age

*Note: A discharging ear with any of the associated symptoms listed below could be a life-threatening complications and needs urgent attention: earache, fever, headache, facial weakness, dizziness or drowsiness.



Awareness workshop for parents of deaf children.

NAMIIBIA

- Do not use ear medication that has not been prescribed by a doctor or healthcare worker.
- Consult a health professional as soon as possible if one of your children has runny ears, if anyone in your family has an ear problem, or if a teacher or relative has noticed a problem (see also Box on page 6).
- Mothers can also be encouraged to check that their husbands, children and extended relatives can hear well and do not have ear problems.

Raising awareness amongst teachers

If health workers and the child's relatives have not been able to prevent an ear or hearing condition from occurring, teachers and educators may be the first to identify a problem.

It is very important that health and community workers support the teachers in this 'extracurricular' role, so that they may become a strong ally in the fight against ear disease and hearing loss.

Teachers can be taught to identify the signs of a potential hearing problem. A child who does not hear well may display some or all of the following:

- Does not speak clearly or confuses his words.
- Gives wrong answers to clear questions.
- Does not like participating in daily activities in the classroom.
- Is slow to progress compared to other classmates.
- Displays poor academic performance for no other obvious reason.
- Seems always distracted and poorly attentive.
- Does not cooperate during role play or group activities.
- Does not get involved with other children in the playground.
- Becomes aggressive or confused when challenged about performance.
- Tends to personal isolation.
- Has a tendency to low self-esteem.

The teacher should speak to the child's relatives and suggest they consult a health professional if any of the above signs are recurrent and confirmed by relatives. The teacher should also suggest the child sees a doctor if he or she presents any of the other symptoms described in the Box on page 6.



Creating awareness in the community on International Ear Care Day. INDIA

The practice of designating 'ear monitors' has been very successful in some settings. The ear monitor is a schoolchild, nominated by the teacher, who speaks to the other children, asks them if they can hear or have any problems, and records the answers in a notebook which they hand over to the teacher once a week. The teacher can then relate this information to each child's performance, talk to the parents and suggest the child sees a doctor if necessary.

Raising awareness in the workplace

Because our jobs enable us to provide for our families, we can be in a vulnerable position when our duties in the workplace go against the preservation of our good health. Labour laws exist to avoid this conflict, but not all countries have laws protecting the ears, hearing and head. In addition, in some developing countries, the laws may exist but are not enforced in the workplace.

Although it is an employer's responsibility to adhere to labour laws, in this less than ideal world workers need to contribute as much as possible to preserving their ear and hearing health.

It is important to raise awareness amongst workers of the following preventive measures:

- **Always wear ear protection in a noisy environment.**
- **Make sure your ear protection is in good condition** and is adequate for the level of noise you are exposed to. Change it if it is damaged.
- **Keep your ear protectors for your own use only and keep them clean** to avoid irritation or infections of your ear canals.
- **Make sure the duration of your exposure to the noise is reduced** if exposure is unavoidable (even with appropriate ear protectors). There are international standards for maximum duration of exposure depending on the intensity of the noise (see page 11).
- **Do not listen to music or use the earpieces as ear protection or 'distraction' from the external noise** (not even under cup ear protectors). The earpieces of personal music players are not designed for noise protection and their loud volume in a noisy environment will only add up to the noise damage.
- **Avoid exposure to solvents or protect yourself with appropriate facemasks.** Solvents (varnish, paint, gasoline, other fuels, etc.) also damage your hearing.
- **If your work involves exposure to noise and to solvents at the same time the risk of hearing damage is much greater** than the sum of being exposed to both of them separately (e.g. car body work, noisy petrol plants, etc.). Maximise your ear protection and minimise the duration of your exposure to these factors.
- **Avoid ototoxic medications.** Their effects will add up together with those derived from noise exposure.
- **Always wear a helmet when there is a risk of head injury** (riding a motorbike, a bicycle, working with heavy equipment overhead, working in a building site, etc.). Even in hot and humid environments, it is better to sweat than to end up deaf or even dead from a head injury.

Continues overleaf ➤

- **Have your hearing checked at least once a year** (ideally every 6 months).
- **Seek medical advice if you already have a hearing loss or ear condition**, or if you notice any change in your hearing, tinnitus (noises or ringing in your ears), earache, ear discharge, itchiness, or any other ear symptoms.
- **Raise awareness about what your government recommends** (or should recommend) for protection at the workplace.

Persons living with hearing loss and disability

Quite often, persons who are deaf have never been told the cause of their deafness. Some assume their children will be born deaf, while others assume that their children will hear because their deafness was an isolated incident, when in reality it was due to hereditary factors. It is therefore important to inform

persons with congenital deafness whether their deafness is hereditary or not, so that they can base their family planning on trusted information.

Deaf people may need medical treatment for ear infections, or ear surgery for cholesteatoma or other serious middle ear conditions. It is important that health and community workers respect persons living with deafness or hearing impairment: when a deaf person comes to a health centre, they are not looking for sympathy, but exercising their right to health, like everyone else.

It is not just access to health services which will lead to the empowerment of persons with disability, but their full participation in all spheres of health work. They should be included in activities aiming to raise awareness in the community, in schools and in the health system. Hearing-impaired persons can be important advocates for ear and hearing health and for the right of persons with disability to live a full and productive life.

CASE STUDY WEST NEPAL

Training community volunteers to teach the prevention of ear disease



Robin Youngs
Consultant
Otolologist
Director BRINOS
(Britain-Nepal
Otology Service),
United Kingdom
www.brinos.org.uk



Puran Tharu
Chief Community
Ear Assistant
Nepalgunj,
Nepal

BRINOS has developed with its partner agencies a community ear care programme in remote rural areas of West Nepal. Raising community awareness of the prevention of ear disease is one of its most important aims.

This programme, established in 2000, was based on a successful Community Eye Care and Health Improvement Programme (CEHP) Project of the Nepal Red Cross Society and rests on the training and appointment of 'community ear assistants' (CEAs).

CEAs are primarily Community Medical Auxiliaries (1 year training after high-school), who receive an intensive additional 3 months' course in ear care, over one year. Although the CEAs were initially trained by doctors from the Bheri Zonal Hospital in Nepalgunj, current training is now undertaken 'in house' by the senior CEAs.

The CEAs in turn are responsible for the training of a large number of village community health volunteers. A large pool of community volunteers is available in Nepal, thanks to two government initiatives. The first is

a network of 800 Village Development Committees (VDCs) that provide an administrative framework for the organisation of local public health awareness. The second initiative is a programme of Female Community Health Volunteers (FCHV) which has existed since the late 1980s. The success of this programme, which loses fewer than 5% of its volunteers annually, has been attributed to a good understanding by policy-makers of the volunteers' expectations and the offer of incentives appropriate to the local context.¹ There are 50,000 FCHVs in the country and our CEAs have been able to liaise with 880 of them.



Community Ear Assistant testing a person's hearing. NEPAL

The CEAs, with the support of the community volunteers, undertake a number of important functions including:

- Primary ear health care education
- Deafness screening in schools and villages
- Treatment of ear infections
- Referral of cases for middle ear surgery
- Hearing aid issue and maintenance

Since 2000, six CEAs have been appointed, covering the districts of Banke, Bardia, Surkhet and Dailekh (which cover a population of around 2 million people). Partnership with the established network of Community Health Volunteers has been a key element for success.

The programme is partly sustainable in that patients pay a small amount for consultations, medication, hearing aids and operations. The parallel eye care programme is now fully sustainable and it is the ambition of the ear care project to achieve this position in the future.

¹ Glenton C et al. The female community health volunteer programme in Nepal: decision makers' perceptions of volunteerism, payment and other incentives. *Soc Sci Med* 2010 Jun;70(12): 1920-7.

Community volunteer teaching the prevention of deafness and ear disease. NEPAL



BRINOS

CASE STUDY CANADA

Raising awareness of noise damage amongst Inuit hunters and fishermen in Nunavik, Canada



Hannah Ayukawa
Audiologist
Tulattavik Health Centre,
Kuujjuaq,
Quebec, Canada

There are approximately 50 000 Inuit in Canada, and 20% of them live in the northern part of the province of Quebec, known as Nunavik. They were living a nomadic lifestyle until the 1950s when they were gathered into villages. This significant change has had an impact on their health.

In 2004, in the course of a survey organised by the Regional Board of Health, the prevalence of hearing loss in Nunavik's Inuit population was measured using a modified WHO population survey and found to be high: one in four adults have bilateral hearing loss. The prevalence is associated with gender: in men aged 18–74 years, 36.6% had significant bilateral hearing loss, three times higher than in women of the same age group. More than 75% of men aged 45 years and older had bilateral hearing loss, compared to 25% of women.¹

Men are more exposed to damaging levels of noise because of their involvement in traditional activities of hunting (firearms), ice fishing (motorised ice drills), and carving (grinders). Indeed, men who hunted more than once a week had more hearing loss than those who hunted less frequently.

In view of the survey results, we realised that we needed to raise awareness about noise-induced hearing loss and offer solutions.

Bringing together health workers and community members

We convened a week-long meeting of Inuit primary ear health care workers from eight communities together with the local audiologist, occupational health nurse and technician. We also invited community members to participate in some of the week's activities.

During the week, besides learning theory, we measured the noise levels of various rifles and shotguns, vehicles, electric power tools and gas powered ice drills used by the community. We also interviewed community members about their use of

these tools and their history of noise exposure. We found that employers provided earmuffs or earplugs for use in jobs that were noisy, but that noise protection was seldom used in traditional activities.

With the help of community members, some of the obstacles to wearing ear protection were identified. For example, one of the Inuit health care workers was a frequent hunter. He came to the meeting convinced that Inuit men would not use hearing protection, because hunters had to be able to hear well in order to hunt. Another obstacle was inadequate access: the only forms of ear protection available to purchase in the community were foam earplugs and regular earmuffs, which were disliked.

Finding solutions with the community

During the week, participating health personnel and community members tried out different types of ear protection. These included, besides foam earplugs: plastic military earplugs (which cut impact noise), regular earmuffs, hunters' earmuffs and helmets. We learned that people preferred what is known as the 'hunter's earmuff'. This battery-powered device has a microphone and amplifies soft sounds, allowing the hunter to hear better. The microphone automatically shuts off when the input level is greater than 80dB, so the earmuffs attenuate any dangerously loud sound.

In order to solve the problem of access, managers of the local stores, as well as the mayor, were invited to see these earmuffs and asked about their interest in making them available for purchase locally. Because of their high cost (approximately US \$100), it was suggested that we work through the Hunter Support store, a regional government programme, which could subsidise their cost by approximately 50%.

Finally, at the end of the week, the Inuit participants presented all our findings on the local FM radio: they highlighted the prevalence of hearing loss and explained that, in men, the damage may be caused by noise exposure. They identified the traditional activities and jobs likely to cause noise damage and talked about the importance of using appropriate ear protection.

In the years that followed, the hunter's earmuffs have been used by more and more individuals. They have been sold in local villages at the Hunter Support store. They were a success, since every community that put them for sale sold all their stock.

There have been some difficulties subsequently because of store managers not re-stocking their inventory (possibly because staff changes frequently). We therefore continue to educate new managers of Hunter Support stores each time we visit a community. We also demonstrate the equipment to individuals, concentrating on hunters, young boys, and women who accompany men on hunting trips.



Trying on different types of ear protection during a community meeting



Snowmobiles contribute to noise-induced hearing loss



Inuit hunter wearing ear protection



Inuit men suffer more hearing loss because of their involvement in traditional activities such as ice fishing, which now uses motorised ice drills. CANADA

¹ Nunavik Inuit Health Survey 2004. Institut national de santé publique du Québec. www.inspq.qc.ca/pdf/publications/659_esi_hearing_loss.pdf

CASE STUDY NAMIBIA

Increasing awareness amongst parents of deaf children through sign language classes



Sue Bright
VSO Volunteer
Association for
Children with
Language,
Speech and
Hearing
Impairments of
Namibia (CLaSH),
Windhoek,
Namibia



**Heide
Beinhauer**
Director
CLaSH,
Windhoek,
Namibia

Since 1994, our association has run the only Pre-School Unit for profoundly deaf children in Namibia. It has a principal teacher (hearing) and three ECD (early childhood development) caregivers (deaf) who teach up to 10 children aged three to six years in their 'mother tongue', i.e. Namibian Sign Language (NSL). Teaching is very practical and offers lots of outings into the community.

The children relay what they have learnt to their families. This makes parents aware that their child can communicate, although they do not understand what they are signing. We decided to further increase this awareness by organising regular NSL classes for family members and caregivers, to enable them to understand and respect their child's communication needs.

Ensuring attendance by considering families' needs

The weekly classes are promoted during home visits or parents meetings and reminders are sent every week via SMS.

Most of the families are from vulnerable and marginalised communities who struggle with

poverty on a daily basis. Families who could not afford the taxi costs to attend the sign classes have been supported financially.

The families appreciate and positively respond to consultation, notably about timing. For example, during the summer months, classes were held on evenings that did not involve church activities for parents. During the dark winter nights, when the families expressed concern for their safety, we responded by changing the lessons to daylight hours. Recognition of the families' needs resulted in the increased and consistent attendance of 12 to 14 family members, including fathers, each week.

Making the classes relevant

The classes are prepared and conducted by an experienced deaf education specialist from the United Kingdom, together with a deaf caregiver from the Unit. Lessons are flexible and adapted to current events or specific areas of child development. The content of the course is examined continuously to be relevant for the needs of three- to six-year-old children and their parents. The families can immediately see the purpose of the signs and use them on a daily basis. They love to show the signs their children use at home and ask about the ones they do not understand.

Creating a sense of community

The NSL classes have proved to be a good opportunity for parents to talk about their concerns for their children, e.g. sleep problems, toileting and behavioural challenges.

It is obvious that the parents love to talk to each other about their children. As one father said: "I have hope for my daughter now that she attends the Pre-School Unit. I can see she is learning and achieving. We can attend sign language classes as a family and can communicate together. We are not alone."

Sign language class for parents of profoundly deaf children. NAMIBIA



CLaSH

OBITUARY DR PIET VAN HASSELT (1944–2012) By Andrew Smith

Dr Petrus (Piet) van Hasselt, who died on 31 August 2012, was a superb ENT surgeon, a meticulous and innovative researcher, and, with his wife Mieke, a visionary who brought ear and hearing care and teaching to the most disadvantaged people in Africa. He was also a co-founder of *Community Ear & Hearing Health*.

Piet was born near Nijmegen, Netherlands, the youngest of 14 children. He graduated in Psychology in 1968, PhD cum laude in 1972, and Medicine in 1977, specialising in ENT.

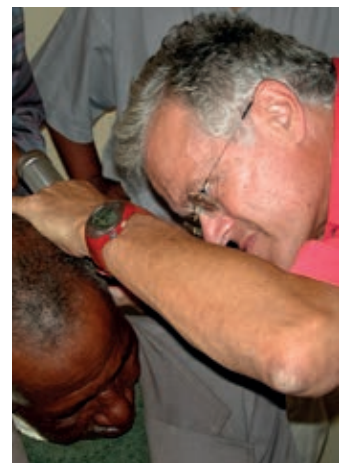
Piet and Mieke's dream had always been to work in Africa. In 1994, CBM employed them to build up an ear and hearing clinic in Ramotswa, Botswana, where I first met them. Over nine years, similar clinics followed in Madagascar, Malawi and Zambia.

Piet, with Mieke's help, performed ear operations and trained local ENT surgeons, and practised and taught primary ear and hearing care.

Piet's knowledge, expertise and practical ideas were vital in developing the World Health Organization Training Resource on Primary Ear and Hearing Care and he joined its Advisory Group. He brought a similar approach to this journal, and served on its Editorial Committee.

Piet was a staunch friend, always helpful, always hospitable and always willing to share his love of Africa, especially its poorest parts.

For their work in Africa, Piet and Mieke were honoured with the Netherlands Order of Oranje-Nassau in 2008, and, in 2011, Piet was made Chevalier de l'Ordre National in Madagascar.



Andrew Smith

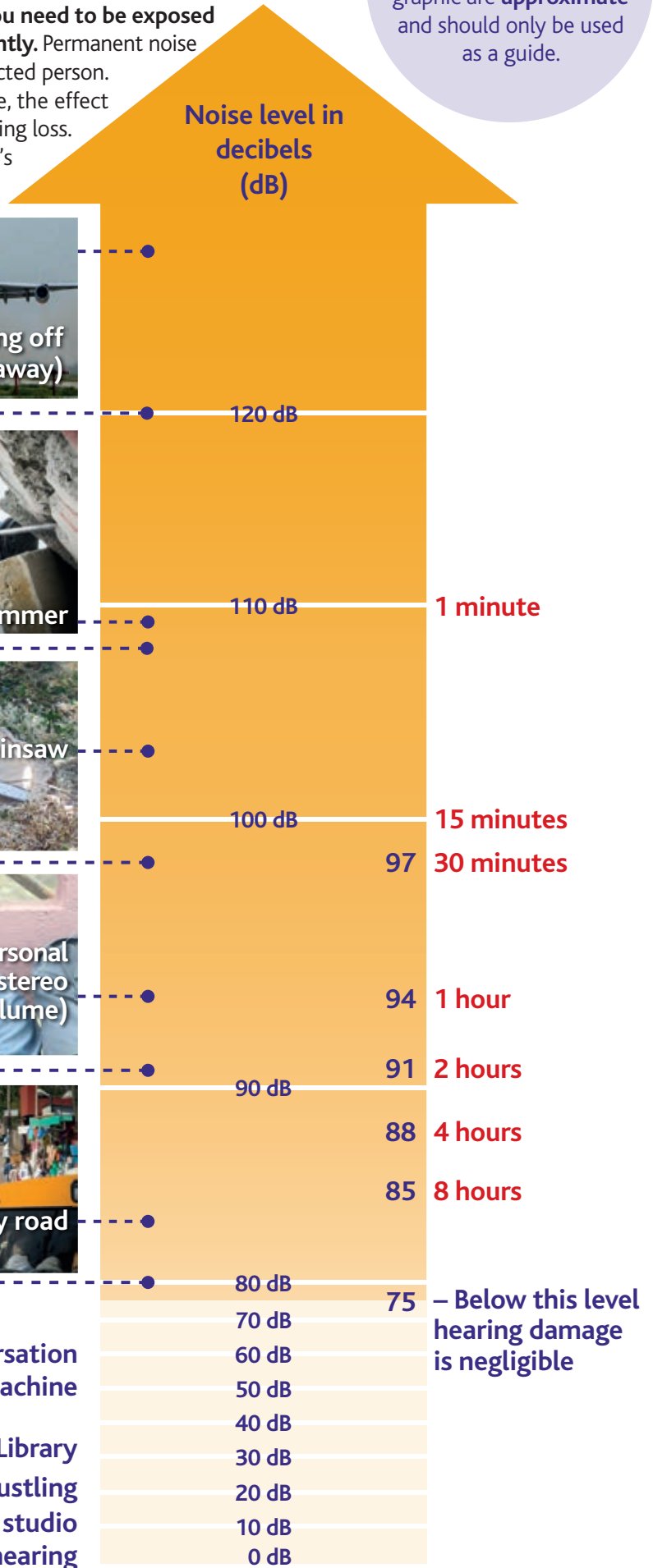
Piet at work in Madagascar

The effect of noise on hearing

Important note:
the noise levels and durations indicated on this graphic are **approximate** and should only be used as a guide.

The times shown on the graphic indicate how long you need to be exposed to the noise for your hearing to be damaged permanently. Permanent noise damage is often not immediately perceptible by the affected person. However, over time and with repeated exposure to noise, the effect will be cumulative and manifest itself as permanent hearing loss.

The damaging effect of noise also depends on a person's distance from the source of the noise and on their individual susceptibility.



Gunshot



Jet taking off (25m away)



Noisy nightclub



Pneumatic hammer



Angle grinder



Chainsaw



Ride-on lawn mower



Personal stereo (max. volume)



Power lawn mower



Busy road

Conversation
Washing machine

Library
Leaves rustling
Sound studio

Threshold of normal hearing

This graphic has been adapted with the author's permission from: Padman Ratnesar, A General Practice Guide to ENT Problems, Figure 32 page 73.

How to take care of your ears

It is important to allow your child to be vaccinated by healthcare workers



PIPPA RANGENDR/DI

Breastfeeding your child helps protect them from infections and provides them with good nutrition



PIET VAN HASSELT

Do not swim in dirty water or let dirty water into the ears



LANGE BELLERS

Avoid cigarette smoking and clear your home from smoke caused by cooking



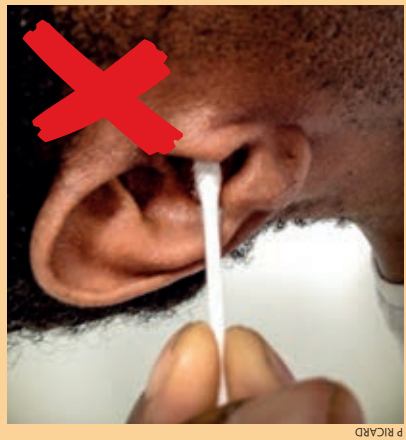
ROMAIN GUY

In case of ear discharge, mop with a clean cloth and see a doctor as soon as possible



PIET VAN HASSELT

Do not insert objects into the ear, especially not cotton buds



P RICARD

Do not put herbal remedies or 'ear candles' in the ear, as they could be harmful



P RICARD

Avoid exposing yourself to loud noise or music for a long time. Protect yourself with earplugs or earmuffs



ANDREW SMITH

Consult a health worker as soon as possible if anyone in your family has an ear or hearing problem



ANDREW SMITH