Letters to the Editor

RADIO AS A MEANS TO ENHANCE EARLY CASE FINDING IN LEPROSY

Editor,

Improving community awareness about leprosy in largely rural, poor communities in order to improve early case finding is a major challenge. Use of the mass media is limited by access but does not require literacy and possibly increases authenticity of the message received. In 1998, the Health Education Committee of the Danish Bangladesh Leprosy Mission developed and recorded a series of six distinct radio jingles and short radio plays using the local dialect with the aim of increasing community awareness of the early signs of leprosy. In the first 2 weeks of May 1998, all six were played extensively over a local radio network, each at least once a day. Our clinic assistants and supervisors were asked to record the cause of presentation prospectively in all newly registered cases presenting voluntarily to our clinics, usually around 40% of all of our new cases. This began in the month before and continued until 3 months after the radio campaign. A small database was created to store this data. Since virtually all new cases of leprosy within the broadcasting area of the radio programme (potential population coverage around 4 million) are identified by our control program, we were able to identify the number and percentage of new cases presenting due to radio.

In April 1998, before the campaign, out of a total of 49 cases presenting voluntarily, none identified radio as a factor in their presenting to the leprosy facility. In May, out of a total of 82 cases, five (6.1%) mentioned radio as the cause of their presentation. In June and July of 1998, none of a total of 117 cases identified radio as a cause of their presentation. In summary, in the 3 months following a radio campaign, five out of 199 (2.5%) new voluntary cases presented as a result of radio information, presumably via this campaign, since no other broadcasts on leprosy were in operation at the time in our area. All five cases presented within the first month and showed no disability and no evidence of reaction at diagnosis. One was MB, and four PB, including one single lesion. All cases were male.

The fact that no cases had any evidence of disability, in a project where cases presenting voluntarily generally have a grade I or II disability rate of more than 20% at diagnosis is interesting, but not statistically significant. The small number of cases, all men, underlines the problem of access to this medium of health education. In 1999 also, despite extensive radio broadcasting as part of the national leprosy elimination campaign, we have not recorded any cases presenting to our clinics as a result of radio information, presumably via this campaign, since no other broadcasts on leprosy were in operation at the time in our area. The more general potential effects of mass communication in raising community awareness and helping to destigmatize the disease have not been examined in this study, but are very important. The total cost of development and broadcasting in this case was Bangladesh Taka 26,000 (approximately US$500), a considerable sum given the meagre recorded response, but which could be reduced considerably by willingness of radio stations to air such messages without charge. We are also continuing to use these messages as part of our village information programme.

In summary, we were not able to demonstrate a significant response to a 2-week radio campaign about early signs of leprosy in our project area. The search for ways to increase the effectiveness of such
programmes is becoming more important with the approach of the elimination deadline for leprosy, and the increasing importance of the mass media.

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SENSSORY TESTING USING NEUROTHESIOMETRY

Editor,

As colleagues at the West Midlands School of Podiatry, we are curious about the use of vibration perception measurements as a clinical tool for the determination of neurological dysfunction in conditions such as diabetic neuropathy and leprosy. Our curiosity is not with the use of vibration perception thresholds (VPT) per se, since this technique is well documented, but the site at which testing is performed.

It is our understanding that in a neurological setting, vibration perception is assessed by holding a vibrating device (tuning fork or neurothesiometer etc.) firmly against the malleolus or some other bony prominence. However, it is known that whilst skin has a variety of somatic sensory receptors, bone has none.

Therefore, the action of placing a vibrating device against a bony prominence has a number of pitfalls. Firstly, the skin is likely to be ‘thinner’ at this site, with little underlying subcutaneous tissue. This suggests that the number of sensory units per unit area is lower than at other sites where there is a greater ‘body’ of tissue present. Secondly and more importantly is the role that the underlying bone will play in the vibration transmission. It has been pointed out that bone acts as a sounding board and hence it would be difficult to know which receptors were being activated. In fact, it was reported as a common experience that vibration in the fingers was felt when a tuning fork was held against a ‘bone protuberance at the elbow’.

The variation in the ‘damping and spread’ of the vibration is determined by the ‘stiffness’ of the tissue. These workers reported in their study that ‘care was taken to apply the stimulator where the subcutaneous tissue was so thin that the stimulus would be transferred maximally to the underlying bone’. These two comments from the same report appear at odds with each other. Surely if it is known that vibration is damped by a ‘stiffer’ tissue (such as bone), it would more prudent not to apply it to a ‘stiffer’ tissue such as a bony prominence. Goldberg and Lindblom have reported a series of vibration amplitudes, where it can be seen that the malleolus and tibia all damp the signal to a much lesser degree.

In the well-known report by Bloom et al., the centile charts for vibration thresholds for the thumbs and medial malleoli may possibly be explained by this damping effect. The vibration threshold is lower in the thumb, which unlike the medial malleolus, has no bony prominence.

The ramifications of this damping effect are obvious. Firstly, it will be impossible to get a true determination of VPT when using a bony prominence. Secondly, a situation might arise in a neuropathic patient where the stimulus is felt as a consequence of transmission of the vibration along the bone in the lower limb away from a neuropathic area, to an area where the vibration is perceived not as a consequence of the initial cutaneous stimulus, but as a secondary effect of transmission to the sensory receptors ‘outwards’ from the bone, from ‘underneath’ as it were.

We would welcome discussion on this topic, since the technique is widely used in podiatry clinics and is one of the major pieces of armament in the battle against neuropathy and its consequences.

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