Outreach clinic and ear disease school prevalence survey 12th January 2016 from EHTC to Leknath, near Pokhara

Introduction to outreach camp and prevalence survey

The first INF EHTC outreach camp was undertaken on 12/01/16, to Shree Divya Deep Secondary boarding school, Leknath.

The school headmaster was Ram Prasad Shrestha, and our point of contact was teacher Mahendra Poudel. This was a temporary school for children mainly from Chhopul, Upper Mustang for 6months during the winter. Chhopul is 9 hours journey by jeep from Jomsom and is over 4000m. The children were accommodated in a hostel and some slept on the school room floors. The school itself was rough breeze block construction with mud floors and comprised 14 small rooms, including an office and kitchen with store and two toilets. The total school population was 106 pupils ranging from age 5- 17 years; 30% were boys and 70% were girls. We were able to examine 83 children on this occasion in addition to 8 teachers. There were a total of 20 teachers at the school.

It was an opportunity to look at the prevalence of common ear conditions present in a general school aged population. The sample size was small but on reviewing the WHO chronic suppurative otitis media (CSOM) survey 2004, some populations sampled such as the whole Indigenous Australian Aboriginal People prevalence figures were based on only 153 children.

Personnel

The team consisted of three doctors, a nurse and two assistants; who were able to take histories in Nepali, examine and advise and treat the children.
The team comprised;

Dr Bridget Osborne	Ganga Thapa	Eka Dev Devkota facilitator
Dr Ian Ferrer	Suracha Kuwar	Min Gurung driver
Dr Claire Ferrer	Seb Cooke	

Demographics of school children seen

AGE	MALE	FEMALE	TOTAL
5-9	8	13	21
10-14	10	28	38
15-17	9	15	24
Total children	27	56	83

Ear Pathology detected

DIAGNOSIS (according to WHO classification)		male	female	NOTES
Otitis externa/cellulitis of ear canal	3	1	2	1 may have perforation, but unable to visualize drum
Acute otitis media	5	1	4	
Secretory otitis media	6	4	2	
CSOM/drum perforations	2	0	2	
Myringitis	1	1	0	
Ear wax requiring intervention	13	5	8	Therefore visualization of ear drum not possible to exclude perforation
Tympanosclerosis	1	1	0	
TOTAL	31	13	18	

All children were given 20 days of multivitamins (polybion) , and either mebendazole or albendazole (if they looked more anaemic) to treat intestinal parasites. Children with otitis media or chest infections were given dispersible amoxicillin, and those with otitis externa magnapen. Follow up of children with wax in their ears (for which they were prescribed wax softening drops) other ear complaints and chest infections is planned for 7-10 days' time.

Discussion of findings

The male:female ratio of 1:2 was explained by the teachers; many of the boys in Upper Mustang would live and be educated in the Buddhist Temple, so the number of male pupils entering the school was less.

The high prevalence of earwax seen is common in a setting which is dusty, dry and with poor hygiene standards. This in combination with the darker, drier type of wax produced by South Asians was felt to account for the high prevalence of ear wax: 15%.

This school survey detected several symptomless cases of CSOM, with two confirmed ear drum perforations seen and one child with an otitis externa who had longstanding symptoms of intermittent discharge. On examination the drum could not be visualised due to pus in the ear canal, also suggestive of CSOM.

The WHO defines CSOM as the presence of a persistent tympanic perforation and middle ear discharge, and differentiates CSOM from other chronic forms of otitis

media. It also subdivides the cases of CSOM into those with recurrent bouts of otorrhoea, with a perforated eardrum (active CSOM), and where a dry but permanent tympanic perforation is present (inactive CSOM).

The prevalence data from the 2004 WHO review publication does not include any surveys from Nepal, but cites several school-based surveys of similar population size. In this study the prevalence of CSOM is 2.4% (or 3.6% if we include the suspected case), which places the prevalence within the expected range seen in other similar countries:

Table 1. WHO Classification of countries according to CSOM prevalence

Group	**Populations**
Highest (>4%) – urgent attention needed to deal with a massive public health problem	Tanzania, India, Solomon Islands, Guam, Australian Aborigines, Greenland
High (2–4%) – avoidable burden of disease must be addressed	Nigeria, Angola, Mozambique, Republic of Korea, Thailand, Philippines, Malaysia, Vietnam, Micronesia, China, Eskimos
Low (1–2%)	Brazil, Kenya
Lowest (<1%)	Gambia, Saudi Arabia, Israel, Australia, United Kingdom, Denmark, Finland, American Indians

We can conclude that Nepal has a high disease burden from CSOM, which would be expected given its location and similarity with other S E Asian countries in this category. It also correlates well with the patterns of disease presenting at the new International Nepal Fellowship Ear Hospital and Training Center, (EHTC), in Pokhara, western Nepal.
These findings support the need for a comprehensive ear care service in Pokhara serving western Nepal . There is a demonstrable need for supportive teaching and training in the recognition and treatment of ear disease for health care workers in Pokhara and the wide area it serves.