University of the Philippines Manila
Ermita, Manila / Palo, Leyte / Baler, Aurora / Koronadal, South Cotabato

Hearing intervention critical before 6 months of age

Apart from newborn screening that detects congenital anomalies, parents should also be wary of hearing disorders in infants. These disorders need timely and appropriate interventions and can be diagnosed through a simple hearing test.

Dr. Charlotte Chiong, director of the Newborn Hearing Screening Reference Center (NHSRC) based at the UP Manila National Institutes of Health (UPM-NIH), said that Republic Act 9709, or the "*Act that establishes the Universal Newborn Hearing Screening for the Prevention, Early Diagnosis, and Intervention of Hearing Loss*", provides for the mandatory hearing screening of all Filipino newborns.

"The law will be implemented within this year after we have set the protocols and procedures, trained the health workers, and acquired the necessary facilities. Of the 1.8 million babies born every year, our target is to have 10% of those babies screened under this project for the first year and escalate this over a period of 10 years," she declared.

A hearing test called Otoacoustic Emissions (OAE) consists of a machine placed in the ear canal that will introduce a certain sound. If a person's hair cells are healthy, they will move and emit energy that can be picked up by a sensitive microphone in the ear canal. Screening will be done in the localities with accredited newborn hearing screening centers and trained health workers.

Prevalence of hearing loss among Filipino newborns

In a study by Dr. Chiong and her team of 700 babies born in a Bulacan provincial hospital, it was found that the prevalence of profound congenital newborn hearing loss was 1 per 724 or .14%.

"It means that at least eight profoundly hearing deaf babies are born everyday in the Philippines or one deaf baby born every three hours," explained Dr. Chiong who is also UP Manila's Vice Chancellor for Planning and Development. For home deliveries that account for 60% of all Filipino newborns and in remote areas with no access to machines, Dr. Chiong revealed that a validated human voice "BAAH" test will be used.

"We initially looked at two words – "*baah*" and "*psst*"– and we noted that "*baah*" has a broader frequency range and is more consistent even with a male or female tester. We validated this test at the Philippine National Ear Institute and Philippine General Hospital Ear Unit. It turned out that if you use the voice test, you will be able to detect a newborn with hearing loss as moderately severe. When the word is spoken and the baby does not react or cry or is not startled, he/she is moderately severe deaf.

The other categories of deafness are profound and severe. She acknowledged that in this case, those with mild hearing loss will be missed out. The test, which can be administered by a Barangay Health Worker, is coupled with a six-item questionnaire. This was informally discussed with the World Health Organization. The questions deal with whether the pregnant mother had problems and infection during pregnancy, whether jaundice or bluishness was observed on the baby after birth, whether he or she had difficulty crying, the baby has low birth weight (<1500 grams) and if the family has a history of deafness.

At the second level of testing with the presence of a doctor or nurse, the human voice test will be accompanied by 11 questions. And at the next higher risk level, the doctor or nurse should bring the baby to the nearest facility or center as mandated by law for objective screening using OAE or automated ABR which looks at the integrity of the hearing pathways from the ear to the brainstem.

Hearing interventions

Dr. Chiong emphasized that hearing intervention is critical before the age of six months. Without intervention at this age, she pointed out that the hearing-impaired children will always experience some form of language delay. They can speak but, compared with their hearing peers, their level of speech comprehension and speech development will be lower.

Dr.Chiong and team doing hearing tests in a rural community.

"At the PGH Ear Unit, we were able to establish that only 30% of these were being referred to us at less than one year of age. All studies support the fact that intervention is needed at age six months for the child to develop age-appropriate language. We know that even here at PGH, we are already delayed in diagnosing because we are not getting the children referred to us at the proper age," she clarified.

"Under the law, the goal is to screen the child below the age of one month and to be able to repeat the screening before the age of three months if the initial test failed for proper diagnosis of hearing loss. If positive, we should be able to put the amplification tool or hearing aid before the age of six months. This would optimize the possibility of the child developing some language despite the presence of severe hearing loss."

The database of newborns will be the responsibility of NHSRC and will serve as input for policy making and changes in program implementation.

Prevention is important

''Of 180 implantation cases I had done over the past 15 years, it was noted that the cause of deafness in 50% of the cases were preventable, 32% with rubella, while others had meningitis, infection, otitis media, and ototoxicity. If we increase awareness, 50% of such cases can be prevented by immunization or other primary preventive measures. Of the remaining 50%, only few cases, with timely intervention, will need the more expensive cochlear implant because they can be solved by hearing aids. *Kaya nagiging mahal, kasi bago nila ilagay ang* hearing aid, four to seven years old *na ang bata, hindi na talaga makakapagsalita.* But if you give it at three to six months, *makakapagsalita pa ang bata,"* Dr. Chiong emphasized. ("This is why the treatment gets so expensive. Children with

hearing problems get the needed hearing aid only at four to seven years old, which makes it too late for them to develop speech. But if you give the treatment at three to six months, they'll be able to speak.")

Financial costs

At present, the OAE hearing test costs P200-300 pesos or slightly higher in some tertiary hospitals and in private clinics. Once universal screening gets underway, PhilHealth will shoulder P200 of this amount. Feasibility studies show that a center will be able to have a Return of Investment for the machine within three years even with a P150 charge/test. So there is no reason for a family to be denied access to the health service.

According to Dr. Chiong, the basic analog hearing aid is P9,000-10,000. A good hearing aid will cost about P25,000-30,000. The Philippine Charity and Sweepstakes Office will cover the hearing aid but the usual requirements of three quotations and validation of hearing test by PGH or University of Santo Tomas will apply.

"What we are saying is that when the law was made, we did not want to penalize the doctors and parents who did not bring the children early. We wanted it to be an incentive-providing type of law. Over the next few years, what might come out will be a program where a mother who brought her child for hearing screening will be given a 20% discount because of the disability law that will also cover hearing aids**.** PCSO can help the families earlier with early diagnosis while the government will save millions of pesos for every child given early intervention at six months based on cost effective studies." So billions of pesos a year can be saved by the government because of this program.

"We will have more productive people with better hearing health if we are able to decrease the prevalence of deafness among Filipinos. We need to aim for Kalusugang Pandinig Pangkalahatan," she stated. (***Cynthia M. Villamor***)

###

This is an OFFICIAL PRESS RELEASE prepared by the
Information, Publication, and Public Affairs Office (IPPAO) of UP Manila
Telefax: 336-6215 / 554-8400 loc. 3842