Forum Interview

with Salyaveth Lekagul

Ears to hear

Dr Salyaveth Lekagul is an otolaryngologist who has been largely responsible for the simplification of middle ear operations, so that they can be performed under local anaesthetic in rural areas of Thailand. He tells World Health Forum how he and his colleagues have been able to improve the hearing of many rural residents who had scant possibility of treatment before the Rural Ear, Nose and Throat Foundation took services to their doorsteps.

Dr Lekagul, how did you start your programme on ear operations in the rural areas of Thailand? What was the background?

It started about 16 years ago when I got back from the USA after ear, nose and throat training over there. I realized that only two of the 73 provinces in Thailand had surgeons who were able to carry out thorough examinations and ear surgery: Bangkok, the capital, and Chiang Mai, the only big town in the northern rural area of Thailand. As you know, Thailand is a very long country, so people from some areas needed to travel 1500 km to Bangkok to see a specialist there. The distance and the cost of the travel nearly always made such a journey impossible.

How did you start organizing it?

We established what we called the Rural Ear, Nose and Throat Foundation of Thailand, composed of ear surgeons who help each other. Wherever they go they do so with their own money and arrange their own accommodation: they pay everything themselves because as doctors they are proud to have the chance to do something for their countrymen.

How did you decide to bring ear surgery to the people of the rural areas?

We ear, nose and throat surgeons have our knowledge, our instruments, and our cars, so why not get everything together and go out to meet the patients? It's easier for us to go with our friends — or even alone — and see thousands of patients waiting in the rural areas than for them to come to see us in the capital.

Are they all volunteers?

That's right, the surgeons are volunteers; we use local nurses and general practitioners to help us.
Salyaveth Leagul

Dr Salyaveth Leagul was born in 1938 and graduated in medicine from Chulalongkorn University, Bangkok, in 1964. After training in surgery and otolaryngology in the USA (Washington, DC), he returned to Thailand in 1972, in which year he founded the Ear, Nose and Throat Project, which later became the Thai Rural Ear, Nose and Throat Foundation. Dr Leagul is the recipient of numerous awards and has participated in many international demonstrations of his work. His address is Rural Ear, Nose and Throat Foundation, 1236 New Road, Bangrak, Bangkok 10500, Thailand.

So you have an arrangement with the local hospitals?

Yes, usually government hospitals because we don’t want the patients to be charged. The staff are always very receptive. In 16 years I have never known a hospital refuse my request to work with them. They are more than happy to cooperate and they keep asking us to return.

How do you make sure that people in each area know about your visit?

The best way is through the radio in the local dialect, together with a song, and timed to coincide with the favourite programmes. The second thing we do is to alert the village health volunteers. Thailand has great success in promoting primary health care. We have been doing our work long before primary health care got started, of course, but now we can call upon a whole network of primary health care workers to spread the news and tell their friends in the neighbouring villages to come and see us. The third thing we do is to display big, colourful posters, not only telling the time we are going to arrive and asking people to come and see us, but also providing knowledge about ears and how to take care of them. So people can make their own preliminary diagnosis and won’t be wasting their time. It is also very good teaching for the public at large. In addition, we distribute a small leaflet before, during and after the examination, explaining all about the ear and its possible diseases.

Are there any other ways of getting to the patients?

We organize training courses for local practitioners, and they go back to their district hospitals and teach their primary health care workers about the ear. We provide information leaflets and videos, so they are able to identify the diseases and tell everyone with a running ear to come to see us on our next visit. With the training we have given them, the rural physicians can take care of their own patients after we leave.

How common are hearing difficulties in Thailand?

We suspected that ear problems in Thailand were more widespread than anyone realized. Then statistics from a survey of the whole country in 1986, supported by the World Health Organization, showed that almost 6.8% of the Thai population—equal to 3.4 million people out of a total of 53 million—were suffering from some kind of hearing loss, ranging from a mild degree to complete deafness.

It struck us forcibly that the highest rate of hearing loss was in the northeast, where the poverty is worse than the other regions. You know, in the richer areas of Bangkok, only 3.3% of the population were affected. This is what drove us to the rural areas.
Forum Interview

What were the sort of problems you encountered?

From the statistics, we found that about three-quarters of the people with hearing loss—more than 2 million—were suffering from curable and preventable infections of the ear. About 53% had chronic ear infection (chronic otitis media) where the ear drum had been perforated and was suppuring; about 9.6% had acute otitis media; and the worst kind of infection, cholesteatoma, which can reach the brain and cause death, affected 1.4%. Altogether, infections cause about 64% of all hearing loss in Thailand. In Europe or the USA I think it is rare to see a case of cholesteatoma, but in developing countries it is quite striking. The remaining cause, sensorineural hearing loss (34%) occurring in old age, could often have been prevented, as it is mainly due to German measles in pregnancy which caused a congenital hearing loss. Only about 2% of our hearing loss is caused by otosclerosis, or the fixation of the stapes bone, which is more common in the industrialized world among Caucasians.

How many people did you examine to get these statistics?

More than 6000 in all regions of Thailand (two provinces from each of the five regions and metropolitan Bangkok), using audiometrics and statistical surveys and questionnaires.

What are you actually doing when you make your hospital visits?

We select the patients who need operations, especially those whose running ears are not responding to any kind of medical treatment; some have been in and out of hospital for several years until they are sick and tired of it and will not come any more because there is no improvement. The other disease that we operate on is cholesteatoma, to prevent the infected mass from getting into the brain. Several years ago, we were inundated with cases of cholesteatoma in its very worst stages, so that we had no chance of patching up the ear drum and improving hearing; but now I am very happy to tell you that because of our work over many years that kind of advanced disease has become far less prevalent. We changed our programme some eight years ago and are able to treat most cases by tympanoplasty—reconstructing the ear drum to its natural state and so improving hearing. The patients did not have pus any more, they could swim, or work in their fields when the rains came without having to run for cover to avoid the water getting into their ears and causing a discharge.

You said you are using the local nurses to help you during your stay in the hospital. But as they are not trained for such operations, do they have any difficulty in recognizing the instruments?

Although most of the local nurses have not seen ear surgery before, they are very keen to assist us. In the operating room, I have a sterile cloth on the instrument table, with pictures printed on it showing the instruments, so the nurse just puts the instrument in the corresponding place on the cloth. This works very well and facilitates our work too.

Who looks after the patient afterwards?

Most people are concerned about postoperative care, to the extent that some of the developing countries’ ear surgeons are afraid to operate in rural areas because they have no control over the safety of their patients afterwards, once they have left the
locality. We are concerned about this too. At the beginning we took it very slowly and went back to see the patients several times. Later on, our experience showed that the follow-up care can be safely left to the local practitioners who have attended our training sessions. Anything we do in the ear has to be safe; we use the same instruments and the same techniques as in our private practice in the capital and we know that they are safe. At the beginning we went back many times and found that local practitioners were caring for the patients well and that the success rate was as high as ours in the town. So we became more confident about not going back to see the patients. But we always leave our telephone numbers just in case.

Are there ever any complications?

Out of over 4000 cases the local practitioners have reported less than 10 with postoperative bleeding and only a few that needed transfusion later on.

In addition to the operations, have you also been looking at how to prevent impaired hearing?

Yes. We have been involved in education of patients and mass media education. I told you about the leaflets: we have already distributed over half a million. Nobody talked about ears and ear diseases before in Thailand, but our work has been publicized so much that now everybody knows about it. It is no longer a hidden problem because we have brought it into the open. The government now stipulates that any doctor who wants to be an ear specialist must do at least six years' practice in the rural areas. Now over 50 provinces have an ear, nose and throat surgeon, and in the near future I think that every province will be covered. Then patients will not have to travel to Bangkok, nor will we have to travel long distances to see them. They can be treated by their own doctor in the local hospital.

So you can say that the development of ear, nose and throat services in Thailand is largely due to your Foundation. How have you been working with the government?

I'm very proud to say that our Foundation didn't have any funding from the government at all. What we want is to help the government, not for the government to help us. Both of us have a responsibility—government and the individual private sector should work together. So most of the funds came from the people of Thailand, with some help from abroad to enable us to get going, such as from Impact Foundation and some foreign embassies in Thailand.

What is the Impact Foundation?

It is "an international initiative against avoidable disableness", promoted by UNDP, UNICEF and WHO. In other words, its aim is the prevention of disability, and our Rural Ear Nose and Throat Foundation works closely with the Impact (Thailand) Foundation.

Can you tell me more about the prevention of deafness?

I have learnt to think in terms of simple things and mass action. If you treat just a few cases you cannot pretend that you are making a significant difference. We always have to think of the masses. Last year we carried out 1600 operations to help people hear better, and we are justly proud of our achievement. But we cannot be too proud of it as there are another million patients waiting for us! Surgery clears up the backlog
of ear disease, but the basic thing is prevention. All ear infection cases start from childhood and become chronic when people get older and do not respond to medicine. If we are to stop the process we must start with children. If a child cannot hear well, when he gets into school the teacher may think he is lazy and put him at the back of the class, which will make matters worse. I have known this happen many times. We cannot rely on audiologists alone to detect cases because there are very few in the country. I began thinking, if 30 audiologists have to screen everybody in the country it will take about 210 years, so we have to find a way of helping people sooner before they get old and die. That’s how we came to think of mass screening, or audiometry. An audiometer has been developed by the Impact (Thailand) Foundation and the Rural Ear Nose and Throat Foundation and we can make it in Thailand for a cost of US$ 100.

So you have made an audiometer which is produced locally?

Yes, it is manufactured locally and it gives accurate results. It can test each ear separately and it is so simple that it does not need an audiologist or a nurse or doctor to use it. We ask the village health workers, volunteers, and the local schoolteachers to test the children.

Have you already tried out this approach?

We have been doing hearing tests in schools in Bangkok for some time. Ten years ago I tested about 60,000 children in Bangkok, but at that time I was on my own. Now we know how to make it so simple that everybody can use it. After a pilot project, if we receive good cooperation from the Ministries of Public Health and Education, we are going to produce many more audiometers. If we have 1000 machines, each one can test at least a hundred children a day. So it will take only ten days to screen a million children. This is fantastic. But I remind myself that this is just the beginning; we know how to test the youngsters, so we can identify the ones with hearing loss. But then we have to do something about it.

How do you plan to handle the process of referral and treatment?

We will ask each tester who has identified people with problems to give their names to the doctor in that district who, after special training by us for a few days, will be able to do further tests and make an accurate diagnosis. He will then treat the cases he can and refer the more complicated ones to the provincial town where they have an ear, nose and throat doctor for further treatment and surgery if necessary.

Do you have a standard treatment for ear infection?

As infection is caused by bacteria, we have to combat them with antibiotics. After treatment of the underlying infection, the natural tube connecting the ear and the throat opens up and the condition improves further. When the source of infection lies outside, getting in through a perforation of the ear canal, we instruct these patients not to go swimming or to let any water into their ears. Otherwise, the problem will recur. I am against washing the ear with any solution, which many local general practitioners do, because it is bound to get through the perforation into the mastoid and make the discharge even worse. However, it is difficult to kill the bacteria by medicine taken only by mouth, so antibiotic ear drops should be used because they contain specific medication that will combat even the most persistent type of bacteria.
Have you met with any resistance to your programme?

No, because we have been doing it for 16 years and we haven’t had any serious complications, just one or two of which would have been enough to kill the programme. Everybody knows how safe it is, particularly the local doctors who take care of the patients afterwards, and they invite us to come back every time.

I’ll give you an example from one of our recent trips. We were operating in the Kyankanlool Hospital (about 800 km south of Bangkok) and the publicity beforehand had been too good! About 400 people presented with discharging ears that had perforation and hearing loss requiring surgery. We had only allowed ourselves one day at that hospital, and we could not stay longer because we had five other hospitals lining up patients for us. We were able to finish 57 ear operations in one day by working until 3 o’clock at night; we could do no more as we had to move on to another hospital at 6 o’clock. The hospital took the names of all the rest — more than 300 cases — and we plan to go back again soon to deal with them. When we have completed all of them, we will be well on the way towards wiping out deafness from ear infection in that district.

And you had no professional opposition either in the beginning?

None at all, because everything was well organized before our arrival and was prepared to the same strict professional standards as when we were treating private patients.

I understand you also have some ideas about how to help people whose hearing loss cannot be overcome by treatment or operation.

As I am an ear surgeon I tend to get carried away talking about my surgical experiences. But now I am getting involved with hearing aids too. We need to make a special one so cheaply that rural people can afford it, powered by a small standard battery that they can buy anywhere, preferably rechargeable or using solar energy. It must also be simple enough to be repaired by the local electrician.

Have you any plans to manufacture such a hearing aid?

I am delighted to say that the largest electronics manufacturer in Thailand has pursued this idea as a service to the poor. They have made what I think is the cheapest hearing aid in the world: it costs just US$ 12. We plan to make this knowledge available to other countries, and also the technology to enable them to make screening audiometers. I believe that community-based rehabilitation should not rely on imports, but that each country should be encouraged to make such things for themselves. We will provide the plans and the necessary instructions. Of course, if they do not have the facilities for manufacturing large quantities, then we would be prepared to supply a bulk order.

I can see you believe in national self-reliance.

Yes, very strongly. It is better to stand on our own feet first before asking for help from outside. If nobody helps you, you can still walk. Then with a little help to pull you forward, you soon find yourself running.

How can you stimulate people to take action?
WHO has been doing it, by starting what is called primary health care: this is the best thing since WHO was born.

*Do you think you could have done all you have without primary health care in Thailand?*

Probably not to the same extent, but I did get started before primary health care began. When I talked to several friends about what I wanted to do, they said, wait, I think we are going to get some help from WHO. If I had waited all those years ago we would not be where we are today. But primary health care certainly gave impetus to our programme. This is what I mean about trying to stand on your own feet first, and then you are in a position to get maximum benefit from any help that is offered.

In fact, if we can be useful to any country we will be happy to help them as much as we can. In the future we will try to get financial support to enable doctors in other developing countries to come to stay with us to learn what we are doing; we will be more than happy to share our experience.

*What are your hopes for the future?*

I dream that one day we will have a permanent unit in WHO responsible for a deafness programme, because hearing loss is just as debilitating as blindness, if not more so. In Thailand alone we have 550,000 people who are completely deaf in both ears; they cannot hear even a thunderstorm and they have to use sign language. Most of them cannot be productive because they have not been able to attend school.

*Why do you think WHO is important in this connection?*

Because WHO is like a model or a leader in the health care field to developing countries. I know it is not a donor agency, but WHO can provide expertise and knowledge, and coordinate people who are doing things. We have many activities in WHO but deafness is a neglected area. Just take Thailand: out of the many kinds of disabilities that exist, one in every four or five is caused by deafness. I am confident that with the knowledge at our disposal we should be able to ease considerably the problem of deafness all over the world.