

Speech-Language Pathology and Audiology Services in India

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In the last two decades, India has developed noteworthy programs for the communicatively impaired. We will discuss some of the ways in which Indians are attempting to adapt a Western technologic model to the needs of a traditional and very diverse rural society. Some basic economic and demographic facts will help set the context within which the Indian achievement can be appreciated.

India has 750 million people (only China has a larger population) and an area one-third the size of the United States (Jones, 1982). We know India by our stereotype of poverty; indeed, among the world's nations, it ranks 15th from the bottom in per capita income. However, India is the 12th-ranking industrial nation in the world and has the third largest pool of graduates of technical and professional higher education. About 40% of the population are children under 15 years of age—300 million children, more than the total population of the United States. An estimated 80% of the people still live in rural villages. They speak 14 major languages and several hundred other tongues and dialects.

As the country has worked to create an industrial base, more people have moved to the rapidly growing cities. Many live in the poverty so often pictured in popular accounts of Indian life. But they are not all desperate, and increasing numbers are able to share in an improved standard of living. While malnutrition remains a serious problem for many of the poor, agricultural production and distribution have eliminated the real threat of starvation of 50 years ago.

Literacy estimates vary, but about one third of the population and more men than women (50% and 25%, respectively) can read and write (Holmes, 1983). The overwhelming reason for dropping out of school is the need to work. At a very early age, children become an economic asset for the poor, and they learn the trades traditional for their families.

In summary, the background to India's current development includes rural isolation, a multilingual society, poverty, and a large and growing population. When British rule ended in 1947, services for the communicatively handicapped consisted mainly of a thin network of schools for the deaf scattered across the subcontinent, largely supported by Christian missionary efforts. With independence came the energy to create institutions and services that expressed India's aspirations for its own growth and improvement.

The special needs of the speech and hearing handicapped received official attention in 1961 with the National Health Survey, which recommended the establishment of a university-level training program (Lakshmanaswami, 1961). The government provided funds, and in 1966 the new All India Institute of Speech and Hearing (AIISH) moved into its first building, on the campus of the University of Mysore in southern India. At the same time, private professionals established clinics in Bombay, New Delhi, and Vellore. The first national workshop on speech and hearing problems was held the same year. Of the 50 people registered, only 3 were audiologists, and just 1 was a speech-language pathologist. The other 46 were medical professionals, mainly otolaryngologists (*Proceedings of the All India Workshop on Speech and Hearing*, 1966). By the late 1960's, India had a university training centre, three private clinics, and a new national speech and hearing association with at least four members trained in the discipline.

The basic purpose of the Mysore Institute is to train students, but it also supports research and provides clinical services to the communicatively handicapped. It admits 20 students a year to the three-year undergraduate program and 10 students a year to the two-year master's program. Students are recruited from all parts of the country and so do not all speak the same language. English is thus recognized as the teaching language at the university level. The students must adopt the scientific thinking that underlies good clinical work and makes research accessible to them. They must become, often in as few as three years, jack-of-all-trades practitioners, very possibly the only trained speech-hearing professional in their community. They may be responsible for the full range of services and quite likely may need to know how to make ear molds and do simple repairs of their own equipment. They are most likely to find positions in a clinic or hospital and to work under the direction of a medical doctor. They are unlikely to work in the schools because services are not usually provided in the educational setting.

In 1966, Mysore was the only training institution in India. Since then three more undergraduate centres have opened: the largest and oldest is at Nair Hospital in Bombay; there is a five-year-old program at the Post-graduate Institute of Medicine in Chandigarh; and in July 1986 a centre opened in New Delhi at the All India Institute of Medical Sciences. All the training programs are associated with ear, nose, and throat (ENT)

departments. The Mysore Institute, however, is still the only training centre for Master's level students, and it has recently begun to grant doctoral degrees. Clinic programs where speech-language pathology services are offered have also expanded. In 1985 there were 31 such clinic programs recognized by AIISH and staffed, for the most part, by their graduates.

A second important commitment of the Mysore Institute is to research. It maintains a library of approximately 5,000 volumes and has an excellent range of current professional periodicals, about 25 in all, representing Australia, Canada, and England as well as the United States and India. In a small area is the Wendell Johnson Memorial Collection, a gift of books presented by Johnson and later enlarged by gifts in his memory from the American Speech and Hearing Association. Students and faculty also have access to the main university library and to the collection housed in the central Institute of Indian Languages.

Some research is carried out by graduate students and by paid research associates, and the institute publishes scholarly articles in the *Journal of the All India Institute of Speech and Hearing*. Faculty and students participate in the annual Indian Speech and Hearing Association meetings, helping to arrange for international speakers and presenting papers of their own.

There are currently about 400 members of the Indian Speech and Hearing Association. Its annual meeting is held in rotation in various Indian cities and typically has about 200 in attendance, this small number permitting an intimacy, warmth, and ceremonial richness not possible at the giant American Speech and Hearing Association meetings in Toronto or Boston. The meeting opens with a welcoming ritual, which is observed at all such gatherings in India. The stage is decked with rows of potted plants, the same ones we in North America cultivate with care outside our windows, but in India grown to tropical proportions. An invocation to a god is chanted in Hindi or in the tongue of the person selected to perform this office. The dignitaries seated on the stage are garlanded with flower ropes of woven jasmine and marigolds. There are speeches of welcome and appreciation, all delivered in the musical accent and cadence of Indian English. The final ceremony, marked by the cutting of a binding ribbon, is the official "release of the souvenir program." Then the conference begins.

The third purpose of the Mysore Institute is to provide clinical services to communicatively handicapped clients. Nearly 37,000 people received treatment at the institute between 1966 and 1981 (Mythili, 1982). Hearing-related problems are by far the most common, accounting for about 65% of all the cases. Next in order are stuttering and retardation. These proportions are fairly consistent with those at the three medically based training programs.

People arriving at the institute register at the intake desk and move to the assigned station for evaluation. Patience is the order of the day. On long, straight benches along the dimly lit

halls and around the bright outdoor courtyard, the daily collection of individuals gathers to wait their turn for testing. Some have travelled great distances. When testing is completed, the patients return for counselling and are given suggestions for home implementation. Sometimes a relative is there to serve as translator or to interpret instructions for those who cannot read. Some patients are given a second appointment and, if living arrangements permit, may be enrolled in a treatment program administered by students as part of their practicum assignment.

In a typical day in the audiology clinic, as many as 35 people may be seen in the three test suites. The rooms are equipped with modern audiometers of Indian manufacture and have imported equipment for immittance testing. Many of the patients come from outlying villages where Western compulsion of time and punctuality is not practised. Since they usually do not arrive by appointment but rather by convenience or inclination, perhaps because the priest astrologist has determined the day to be auspicious, there can be no dependable prearranged schedule and no way to predict how many will appear on a given day. There is even no way to know what language they will speak. Although Kannada, the language of Mysore, is most likely, patients may speak any of the 11 other languages that have been encountered in recent institute clinics. The students conducting evaluations that day may not know the language; then begins the scurry to find someone who can talk to the patient. Even department heads may be drafted on short notice to do a diagnostic evaluation.

Because all of the needed services are housed in one building, a child who comes for a hearing test may be examined by the otolaryngologist or a psychologist, or evaluated in the speech-language pathology department. There is also access to the labs for ear molds, obturator design, and voice evaluation.

In addition to providing clinical services, the institute undertakes service projects in the community. Perhaps the most interesting of these are the speech-language-hearing camps, begun as an attempt to extend contact to the rural population. Three or four times a year the manager packs up battered wooden trunks with audiometers, evaluation forms, audiovisual equipment, brochures, and pamphlets and loads them into the Institute van. Then a group of students and faculty members leaves for as far away as the Kerala coast across the Western Ghats, a full day's drive. They may arrive in a town of 2,000 people where there is no doctor trained in Western medicine. They set up in a local school or another building made available for them. To hear staff members describe their experiences in these camps is both incredible and entertaining: "We may see 100 people in a day. At one camp, in five days, we saw more than 1000 people. We began at 8 a.m. and continued until 11 p.m., and still we had to turn away 50 angry people just from exhaustion." One student said, "We were too busy. I couldn't have time to take my food."

Staff members say that many of the children seen in the camps will never be enrolled in school. The parents come

hoping for a medicine to cure their child's deafness. Some even come believing that there will be treatment for stomachaches or other assorted ailments. When appropriate, the team advises that buying pills to cure deafness is a waste of money, but still the people may reject such counsel, disappointed that there will not be a medicine to cure every complaint.

Some staff members are critical of the camps. They say that noise, crowding, hurry, and confusion make test validity impossible. They point to the small proportion of patients who return for follow-up care. In one survey, 95 people were identified as needing services; only about 20% came to the institute for recommended testing (Viswanath et al., 1971).

But there is another view. The usefulness of the camps may lie in their educational value, both for students in training and for local people. There is a limited awareness of speech and hearing problems in India. If nothing else, the camps begin the long process of introducing parents to the possibilities of medical and educational help for their handicapped children. They offer the potential of a remedy, which can spark efforts at the local level long after the Institute team has packed the van and driven away.

Nowhere is there a better example of this kind of positive result than in Bangalore, a lively commercial and cultural centre about 100 km northeast of Mysore. As a result of a speech camp held there in 1974, the Lion's Club of Bangalore East sponsored a fund-raising effort that culminated in the construction of the Bangalore Institute for Speech and Hearing (Rathna, personal communication, 1986). Today it is a well-established centre, employing audiologists and speech-language pathologists and technologists, as well as providing services in otolaryngology, neurology, and psychology.

Service delivery to the rural population remains one of India's most difficult problems. Despite the development of speech and hearing services, the majority of India's people remain underserved, especially the 80% living in rural areas. This problem has just begun to be addressed in earnest by the current five-year plan. Recently three rural outreach pilot programs have been initiated in separate geographic areas in India with funding from the federal government and UNICEF. Models are being developed for bringing primary health care delivery and associated rehabilitation services to people in isolated villages.

One of the programs is in the Virar District, about 70 km north of Bombay. Here the project's goal is to identify handicaps and provide appropriate follow-up services for a population of roughly 100,000 persons in the 28 villages that comprise this district. A district rehabilitation centre has been established in a small building on the outskirts of the town of Virar. Here a local physician, who was instructed by his religious guru to help the handicapped, set up a four-bed hospital clinic where operations for orthopedic deformities are carried out. A social worker from the All India Institute for Physical Medicine and Rehabilitation in Bombay works with him and professionals in

physical therapy and speech-language pathology and audiology to staff the regional centre on a routine basis (one to three days per week) for rehabilitation consultations. These staff members travel about two hours by train from Bombay to reach the clinic by early morning. Under an open-thatched area, a technician fashions wooden prosthetic feet and legs for amputees, explaining that the newer plastic and "high-tech" versions are not rugged enough to take the constant pounding on the dirt footpaths that constitute the reality of transportation in rural India.

An open circular "women's hut" is the site of training programs for local inhabitants being prepared for the most innovative aspect of this project. To reach from Virar out to the surrounding villages, a network of local residents, mostly young women with strong family ties and who are trusted by the community, has been recruited. They are trained and paid to serve as village-level workers. The understanding is that they will remain in the family village. Training is carefully geared to avoid the granting of a degree or the development of skills marketable for the urban environment.

The first task of these workers was to do a house-to-house census of handicaps (while dispensing polio vaccine to all young children and identifying low-birthweight babies for follow-up). This phase of the project took almost a year. The major handicaps identified were, in decreasing order, orthopedic problems, hearing and speech-related problems, and mental retardation. Last year saw the next level of "outreach." Multidisciplinary rehabilitation workers—local residents who would serve as a village-level resource for families with children identified as handicapped—were being recruited and trained.

The National Institute for Hearing Handicapped in Bombay was charged with developing (in various local languages) a training module on hearing and speech disorders for these workers. The training is to last a maximum of three months, with an additional three months of field work. These workers are to go through 18 months of training, in modules ranging from two weeks to eight months and representing all the major disciplines involved in rehabilitation services. It is these workers who will help bring handicapped children identified in the villages to Virar for service. Visiting professionals will demonstrate therapy, prescribe follow-up treatment, and oversee the program (with the help of the village-level worker) once the child returns home. They truly need to be paraprofessional rehabilitation generalists!

The training of such paraprofessional workers for contact with communicatively handicapped patients is controversial in some professional and academic circles. Some feel that these "trainees" will move to clinics and hospitals and thereby compete for the limited professional positions, since India has no professional minimal standard for practitioners of speech and hearing services that is widely accepted by the chief employers—medical doctors. Others point out that, even if this

happens to some extent, there is almost no chance otherwise that trained personnel of any level would stay to provide service in rural areas. As it stands now, 30% or more of BS and MS speech and hearing graduates emigrate to Western countries where laboratories, equipment, and public monies support the type of work that they have come to expect based on their Western training (Rathna, personal interview, 1986). It seems apparent to an outsider that additional options to the traditional Western training model offer the best hope that inhabitants of rural villages can gain some access to clinical services for communication disorders. The personnel at the Ali Yavar Jung National Institute for the Hearing Handicapped, headed by the former director of AIISH and staffed primarily by its graduates, are committed to developing cost-effective and functional ways of providing rural services to the speech-hearing impaired. For example, with the use of sophisticated acoustic analyzers, they have experimented with the sound-absorbing properties of a wide range of natural materials to find a substitute for the sound-treated audiological test booths in the field: the best candidates are natural palm thatch and gunny sacks filled with straw. They are moving ahead in collaboration with the National Institute for Physical Medicine and Rehabilitation on this project, despite some professional resistance and criticism.

One heartwarming result of this particular project has already occurred. In a dusty field about 15 minutes' drive from the Virar Clinic, an aged fieldstone and dirt-floor structure shaded by a small grove of trees houses two new classes for deaf or hearing-impaired children. Boys between the ages of 9 and 13 were selected for this first-ever local attempt at educating the deaf. None of these children received any prior education. Many walk several kilometers to get to the school. The school is staffed by two trained teachers of the deaf, who also make the more than two hour Bombay train trip each morning and evening. The children wear auditory trainers. Only a few have aids to wear when they return home at night. They respond orally in unison to rote lessons written in Hindi. Seated around a U-shaped table, they smile broadly at visitors, obviously proud of their new math and reading abilities. At the teacher's signal, they stand at attention and bow their heads with palms together in the traditional *namasté* greeting. The teacher reports that these children are learning faster than any she has ever dealt with in her training program in the city. Nearby in a small room, a young sewing instructor helps an 18-year-old deaf woman run an ancient foot-treadle sewing machine. She is learning one of two trades being offered here to young deaf adults: stitching (almost all clothing is handmade) and carpentry.

This scene may seem a long way from the ideal of a speech and hearing service that one would hope to deliver to the India of the future, but the progress it represents is encouraging. The excitement and enthusiasm of the children and staff are engaging. If the other two pilot rural projects are succeeding as well as this one, and if the replication process can begin, perhaps India (already a leader in the Third World in the development

of a quality communication training program) can teach her neighbors and Western countries alike how efforts can be channelled to provide such services to children in rural areas, where poverty, inaccessibility, and ignorance have kept these children isolated for so long.

India faces many problems as she attempts to provide speech-language pathology and audiology services to her huge population. There is no infrastructure for the equal distribution of such services. The clinics and hospitals that do exist are concentrated in urban areas and are typically deluged with patients, many of whom misunderstand the kind of treatment that is possible. The profession is heavily dominated by the medical field, most notably by ENT doctors, who hire most of the audiologists and speech-language pathologists. There is a resulting dissatisfaction with professional autonomy. Little job flexibility and poor opportunities for advancement are cited as reasons why many health care professionals find employment outside India.

Nevertheless, despite these handicaps, India is making advances. The Mysore program has set the standard for speech and hearing training throughout South Asia and has graduated a steady stream of well-prepared health care professionals, some of whom are opening private clinics in cities and towns throughout the country. The Indian Speech and Hearing Association has become an independent professional group, no longer affiliated with the Indian Association of Otolaryngologists as it had been in the early years of its existence. Small BS-level training programs with a clinical emphasis are being developed in three medical centres. The staff are beginning to collaborate on academic and clinical standards that should lead to reciprocity with Mysore and with any new training programs and to an eventual national professional standard. Some professionals are starting to consider schools as an alternative service venue to hospitals and clinics. Awareness of the special problems of delivering service to rural inhabitants is growing, and efforts are under way to develop cost-effective solutions. This has all taken place in less than one generation.

The hard-working and dedicated Indian health care professionals who are making this happen deserve the admiration and support of those of us who believe that service for communicatively handicapped individuals is a worthy worldwide goal.

Authors' Notes

Virginia Bingham was a volunteer instructor at the All India Institute of Speech and Hearing during the academic year of 1979 and again in summer 1984 and has travelled extensively in India. Teris Kim Schery was a Fulbright visiting professor at the All India Institute of Medical Sciences from October 1985 to April 1986. She travelled throughout India during this period, visiting the All India Institute for Speech and Hearing and the program centres in Bombay and Chandigarh.

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Erratum

In the September issue of *Human Communication Canada* (Volume 12, Number 3) an error was made in the article entitled, "Acoustic and Electrophysiologic Correlates of Stuttering and Related Developmental Reactions," by Courtney Stromsta. In the legend for Figures 3 and 4, and throughout the text, "EEG" should be read as "EGG." The editor regrets the confusion this error may have caused to readers.