ASHA KIRAN 2014

Asian Indian Caucus

<u>^<u>ñ~ñ~ñ~ñ~ñ~ñ~ñ~</u>ñ~<u>ñ</u>~ñ</u>

CELEBRATING 20th ANNIVERSARY

ASIAN INDIAN CAUCUS(AIC) ANNUAL NEWSLETTER

About Asian Indian Caucus

The Asian-Indian Caucus (AIC) is one of the six multicultural constituency groups of the American Speech Language and Hearing Association (ASHA). AIC was established in 1994 to address the professional, clinical and educational needs of persons of Asian Indian origin residing in the United States in the area of communication sciences and disorders. Asian Indians, otherwise known as South Asians, refer to persons who trace their origin to the Indian subcontinent, including, but not limited to the following countries (in alphabetical order): Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka.

AIC OBJECTIVES

- * To serve as a resource to meet the needs of clients of Asian Indian origin.
- * To provide a forum for interaction and collaboration among clinicians, researchers, and students of Asian-Indian origin in the field of communication sciences and disorders.
- To promote initiatives to increase the body of knowledge pertaining to Asian- Indian individuals as it relates to the field of communication sciences and disorders, and to compile and disseminate this body of knowledge.
- * To enhance cultural competence among ASHA-certified professionals and increase cultural sensitivity regarding Asian Indians.
- To serve as a networking and mentoring resource for the general ASHA membership serving individuals of Asian-Indian origin with communication disorders.
- To work closely with ASHA, it's Office of Multicultural Affairs (OMA), and it's Multicultural Issues Board (MIB) in initiatives pertaining to the above objectives.

WANT TO KNOW MORE ABOUT AIC?

Like us on our Facebook pagehttp://goo.gl/kgCqK American Speech-Language-Hearing Association

In This Issue

NOVEMBER 2014

Pg. No.

Title

- About AIC
- 2 President's message
- 3 Meet the Executive Board
- 4 From the Editor's Desk

AIC-Spotlight

- 5 Dr. Georgia Malandraki
 - Technology for personal
- 10 rehabilitation Dr. Swathi Kiran

Cultural perceptions of illness in

15 Asian Indian Seniors Ms. Rinki Varindhani

Multicultural resources for AIC

- 18 members from ASHA Ms. Andrea Moxley
- Tips on accent reduction
- Ms. Sonu Sanghoee
 - Using the virtual world to enhance social communication skills in real world
 - Dr. Ravi Nigam

22

- Voice of an Asian Indian Senior-
- 25 The strength in persistence *Mrs. Revathi Ravi*

In the News –Phoenix Fury

26 Northern California Robotics Team

1

Dear AIC members,

Greetings!! Hope everyone is having a great year. I am pleased to present to you the Annual Newsletter for 2014. I want to thank Akila Rajappa and Varsha Hariram, our editors for putting this newsletter together and for all the hard work behind it. I hope you will enjoy reading this newsletter. As I complete my 2 year term, I want to thank those before me for giving me an opportunity to lead this caucus. And a special thanks to Monica Sampson and Balaji Rangarathinam for their tireless work to move this Caucus in a different, positive direction. I hope to continue to help this Caucus grow and achieve our goals as a member moving forward.

In the past year, we have successfully eliminated membership fees for all. We continue to see a growth in our membership numbers. We have contacted various companies who design and make SLP/Audiology products to advertise on our website. We have initiated networking with several Asian-Indian Communities across the country to create awareness about AIC and it's SLP/Audiology members. We have targeted specific cities with a higher Indian presence. We had several people reach out asking for leads to contact SLP's in their communities this past year and we were successfully able to help them. AIC has assisted school based SLP's in providing resources on assessment and intervention of multilingual Indian children.

As I leave, I would like to see AIC continue working with ASHA as multicultural experts, to participate in policy making and governance at a national level. I have communicated with ASHA to have one of us as a representative on the multicultural issues board along with representatives from other multicultural caucuses.

Finally, I would like to recognize our Executive board for all their hard work this past year: Prabhu Eswaran and Nandhu Radhakrishnan (Vice Presidents), Ranjini Mohan (Secretary), Akila Rajappa and Varsha Hariram (Editors). I encourage people to sign up and support this caucus. Please check out our Facebook page or go to our website and sign up for membership to support and participate in our caucus : http://goo.gl/kgCqK or https://sites.google.com/site/ asianindiancaucusasha/membership or just email us at asianindiancaucus@gmail.com

I am looking forward to meeting many of you in Orlando at the ASHA conference.

Thank you.

Arun Biran M.S., CCC-SLP

President

Message from the President



Arun Biran

MEET OUR EXECUTIVE BOARD

President- Arun Biran

Arun Biran is the Regional Director of Rehab with Life Care Centers of America, Cleveland, Tennessee. He has been an SLP for more than 20 years. He has been in multiple management positions including owning a very successful business. His expertise is in geriatric care, with specific focus on Parkinson's and Dysphagia and as a professional, he is constantly looking for new and innovative ways of helping them have a better quality of life. He can be contacted at arunbiran@gmail.com

Vice President (Professional Development) -Prabhu Eswaran

Prabhu Eswaran is currently working as a school-based speech-language pathologist in Los Angeles, California. His areas of interest include child language disorders, communication disorders in culturally and linguistically diverse populations and technology in special education. He can be contacted at prabhuslp@gmail.com

Vice President (Public Relations)- Nandhu Radhakrishnan

Nandhu Radhakrishnan is an assistant professor in the Department of Speech and Hearing Sciences, Lamar University, Beaumont, Texas. His areas of expertise include clinical, occupational, and performance voice. He can be contacted at nandhu@lamar.edu

Secretary- Ranjini Mohan

Ranjini Mohan is a final year doctoral student at Purdue University, West Lafayette, Indiana. Her professional interests include Gerontology and adult communication disorders. She can be contacted at ranjini25@gmail.com

Co-Editor- Akila Rajappa

Akila Rajappa is a Board Certified Specialist in Swallowing and Swallowing Disorders (BCS-S) with over 15 years of clinical experience in the treatment of swallowing, cognitive, and communication disorders with adult/geriatric population. She has extensive experience in supervision of graduate student interns and ASHA Clinical Fellows in a variety of health care settings. She is currently pursuing her PhD in Speech-Language Pathology at Columbia University, NY. Akila has a passion for dysphagia rehabilitation and her interests include swallowing neurophysiology, neuroplasticity, exercise physiology and aging. She is a member of the Public Relations Committee of American Board of Swallowing and Swallowing Disorders (ABSSD). She is actively involved in serving the Asian Indian community through her outreach educational initiatives on healthy aging for seniors, voice consultation programs for Indian Classical singers and also conducting Indian cultural events in the NY/NJ metropolitan area. She is currently working as a Lead Speech Pathologist for Genesis Rehabilitation Services at New Jersey Veterans Memorial Home, Paramus, NJ. She can be contacted at <u>atr2123@tc.columbia.edu</u>

Co-Editor- Varsha Hariram

Varsha Hariram is currently enrolled in the PhD program at Purdue University. She is working as a research assistant in the Experimental Amplification Research lab. She also recently completed the Doctor of Audiology (AuD) program from Purdue. Her research interest is directed towards investigating novel hearing aid technology to evaluate its benefits for patients with hearing loss. She can be contacted at <u>vhariram@purdue.edu</u>















From the Editor's Desk AKILA RAJAPPA & VARSHA HARIRAM

Greetings from the Editorial Board of AIC 2014!!!

It is indeed with great pleasure and enthusiasm that we publish our 2014 newsletter featuring a unique set of articles and contributions from renowned researchers and clinicians in the field of speech-language pathology and audiology. AIC is excited to celebrate its 20th Anniversary with a centralized theme focusing on "Aging Seniors of Asian Indian Origin". We are grateful to all our authors for their contributions focused on this central theme.

This year's spotlight section features Dr. Georgia Malandraki, an eminent teacher, clinician and researcher in the field of swallowing and swallowing disorders. Dr. Malandraki shares her insights on current dysphagia rehabilitation practices to students, clinicians and researchers in the field based on her unique and exceptional work in Greece and the United States.

The research section features the article "Application of Technology to Aphasia Rehabilitation" by Dr. Swathi Kiran, highlighting the role of iPad based application for personal rehabilitation. In the clinical innovation section, we have Dr. Ravi Nigam's article on use of virtual reality for enhancing social communication for children with autism. We also have tips on accent reduction for AIC members by Ms. Sonu Sanghoee.

The multicultural section comprises of article contributions from Ms. Rinki Varindhani on cultural perceptions of illness in the aging Indian seniors and resources on multiculturalism from ASHA by Ms. Andrea Moxley. The voice section for this year's newsletter has an inspiring article written by an Asian Indian Senior, Mrs. Revathi Ravi from Sacramento, California who shares her experience in overcoming a voice problem.

The newsletter would not have taken this good a shape without the support from our executive team Arun Biran, the President, Ranjini Mohan, the Secretary, Prabhu Eswaran, the Vice President (Professional development) and Nandhu Radhakrishnan, the Vice President (Public relations). We are deeply indebted to them for their enthusiasm, mentoring and timely guidance offered all through the year.

We sincerely hope you enjoy reading this year's newsletter and we are looking forward to hearing your feedback and suggestions.

Best wishes, Akila Rajappa & Varsha Hariram

AIC SPOTLIGHT

Dr. Georgia A. Malandraki, PhD, CCC-SLP, BCS-S

1) We admire your achievements at such a young age. Tell us about yourselfwhere you are from, your educational history and what inspired you to choose this field of Speech, Language Pathology?

Thank you for your nice words and the very honoring invitation! I come from a small town called Chania located on the island of Crete, in Greece. When I was 10 years old my older sister had her first son who was soon diagnosed with borderline intelligence and high-functioning autism. His name is Telemachus. Watching my sister struggle to raise Telemachus in a small city without any programs or specialized services for children with these diagnoses was what sparked my interest in the field of speech-language pathology. I completed my bachelor's degree in Speech and Language Therapy in Greece before moving to the United States where I completed my master's in Speech Pathology at Ohio University. It was during my time at Ohio University when I took the Dysphagia course by a very talented Professor (Richard Dean) and first read the seminal works of Jerilyn Logemann*, which sparked a career-defining passion in me for the area of dysphagia. Following my master's degree I went on to complete my doctorate in Speech and Hearing Science with a focus on Swallowing Disorders and Neuroscience at the University of Illinois, Urbana-Champaign, under the guidance of Adrienne Perlman, after which I completed a post-doctoral fellowship with JoAnne Robbins at the Department of Medicine at the University of Wisconsin in Madison, WI.

Dr. Malandraki's note in honor of Dr. Logemann: Dr. Logemann was an international authority in the area of dysphagia with immeasurable impact in patients and clinicians' lives all over the world. Unfortunately, she passed away in late June of this year, but I am so honored that I had the chance to meet her, briefly collaborate with her and most importantly get inspired by her.

Dr. Georgia Malandraki



Dr. Malandraki is an Assistant Professor at the Department of Speech, Language and Hearing Sciences at Purdue University and a Board Certified Specialist in Swallowing and Swallowing Disorders. She earned her Bachelor's degree in Speech and Language Therapy at the Technological Educational Institute of Patras, Greece and her Master's *in Speech and Language Pathology* at Ohio University. She then completed her Doctorate in Speech and Hearing Science with a focus in Swallowing Disorders and Neuroscience at the University of Illinois, Urbana-Champaign and pursued a postdoctoral fellowship at the Department of Medicine of the University of Wisconsin. Madison.

....CONTINUED

2) You actively serve patients here in the US, as well as back in your home country, Greece. How do you manage to adapt the knowledge you've gained here, to the people there? What advice do you have for young Asian-Indian SLPs and Audiologists to serve the emerging needs of multicultural population in the United States, and how can they take principles they have learnt here back to their country of origin?

The field of speech language pathology is very young in Greece, with the first SLP academic programs starting less than 20 years ago. Because of this, the field is not as specialized as is it is here, and in particular there is a dearth of trained specialists in the area of dysphagia. I understand that this is probably similar in India. Being one of the first speech pathologists who graduated from my country's first public SLP program and having been blessed with the academic and clinical career I have, I felt a deep sense of responsibility to build this area of knowledge in Greece. In order to do this, I had to not only educate and train knowledgeable clinicians, but to build working relationships with Greek physicians in order to gain support from within the medical community for the work that we do. This process takes time and can be very slow, but I believe it is a necessary first step toward gaining respect from the medical community and ultimately toward developing trained, competent, and ethical dysphagia clinicians. This is true, not only for Greece or for the area of dysphagia, but for any underserved area or population. Knowing the Greek culture from within (since I was born and raised in Greece) helped me know how to approach other professionals, and to understand cultural preferences for foods and eating habits for patients.

Regarding the dealing with increased cultural diversity, I believe this is true not only in the US but around the world. The population of Greece is becoming ever more diverse with immigrants from Africa, Asia, and elsewhere in Europe. As clinicians our job is to provide the best patient care, and this requires us to be knowledgeable and respectful of cultural differences. With respect to dysphagia, this means being aware of the food customs and the importance of food to religion and culture and respecting those customs when it comes to treatment. It is not uncommon to see a patient doing better in dysphagia treatment when the clinician brings in foods that the patient likes or that are specific to their culture. Keeping an open mind and inquiring about cultural food preferences during the evaluation process will help clinicians design more effective treatment strategies for their patients.

> Preparing materials for VFSS with a Greek MD

Dr. Georgia Malandraki



Her research follows two primary directions: a) an effort to understand the underlying neural mechanisms of swallowing function and the neuroplastic properties of the brain in pediatric and adult dysphagia, and b) the application of telemedicine systems to test the effectiveness of providing speech and swallowing services over the internet.

Dr. Malandraki's research has been funded internally and externally. She has presented and published her work in prestigious conferences and journals nationally and internationally and has written six book chapters and one book (in Greek language).

Her academic and research contributions have resulted in *multiple honors and awards,* including the prestigious 2011 Early Career Contributions in Research Award by the American Speech Language and Hearing Association, and more recently the 2014 Diana Bracco *Outstanding Board Specialty* Certification Applicant for Swallowing and Swallowing Disorders. This award will be presented to Dr. Malandraki at the upcoming 2014 ASHA Convention in Orlando during the Meet the Masters Symposium.

....CONTINUED

3) Most speech pathology students/clinicians in India and those who come to the US for higher studies have very limited training/knowledge in Dysphagia. Based on your expertise, what can Asian-Indian SLP students/clinicians do to become more knowledgeable about Dysphagia and what can they do to embrace dysphagia rehabilitation in their routine clinical practice?

This question requires a more in-depth answer than this forum allows. However, in short, I would first say, that on a higher level the responsibility of good dysphagia training lies with the officials and training programs of a country. For any country that dysphagia is a new field such as Greece and India, the training programs and the national SLP Associations need to recognize this important need and either bring in qualified and expert professionals to provide trainings or invest in some of their own to get training somewhere else and come back. In many ways this is what our team is now trying to do in Greece; i.e., increase awareness and train better clinicians.

On an individual level, I think the best practice would be to try and work for an extensive period of time next to dysphagia specialists, in addition to inquiring and reading the literature, joining our professional international Association (Dysphagia Research Society), and staying up to date. If there are no clinicians available to learn from, there are a lot of international conferences and online courses. The websites of the Dysphagia Research Society, the American Board for Swallowing and Swallowing Disorders and the American Speech Language Hearing Association, all have good resources and webinars to get people started. Once you begin working with patients, particularly in countries where dysphagia is less understood, I believe it is also important to work closely with other medical professionals (nursing, radiologists, dieticians, neurologists, etc.) both as a way to provide best patient care, but also to elevate the field within the medical community.



....CONTINUED

4) You are both a clinician and a researcher. How do you manage to make a connection between the two?

Although I am an academic and I love the academic research aspect of our profession, I am also a very passionate clinician. Through my experience so far, I would say that I believe I am better clinician because I am a researcher, and a better researcher because I see patients clinically and inform my research questions constantly. This has led me to focus more on clinical research and into trying to find the connection between what we do in the clinic room and what is happening in the brain. Specifically, our main research focus at this time is to find out how swallowing neurophysiology correlates with normal and abnormal swallowing behaviors and what are the best ways to manipulate developmental and treatment neuroplasticity for our patients in order to help them regain or improve their swallowing skills. Overall, I believe the hard work of science comes alive in our patients, and ultimately that is why we're all there.



5) You have done a lot of work in fMRI and neuroplasticity in dysphagia rehabilitation. Tell us more about your most recent work.

In the past we have used a technique called task fMRI to study the neurophysiology of swallowing in healthy young and older adults. This technique allowed our research group (and other researchers) to identify a cortical and subcortical network of areas that are active when people swallow. We also used task fMRI to study neuroplastic effects of treatment in patients with dysphagia, however, this technique has limitations when it comes to patients with swallowing difficulties. One limitation is the increased difficulty these patients face while swallowing in the supine position (necessary for imaging in the magnet). Additionally, MRI requires patients to lie flat on their back for several minutes, making it challenging for patients with postural restrictions to participate.

....CONTINUED

Because of these limitations, we are now using newer methodologies. A relatively new method, known as restingstate functional connectivity MRI (resting-state fcMRI) permits the investigation of temporal connectivity between functionally connected brain areas during rest. In essence this technology allows us to see how distinct, but functionally connected, brain areas "communicate" with each other at rest. And yes, our brain areas DO communicate with each other, even when we are resting. By using resting-state fcMRI we can indirectly study the integrity of the swallowing network and correlate it with swallowing behavioral measurements that can be elicited outside the magnet. This can have significant practical applications for our field.

Indeed, resting-state fcMRI allowed us recently to start looking at the connectivity of the swallowing network areas in patient groups. Our most recent work includes children and adults with neurological impairments. Another avenue we are also exploring in order to better understand developmental and treatment neuroplasticity is the use of multimodal imaging, and specifically the simultaneous use of fMRI and EEG technologies. Our pilot work is very promising and we look forward to the continuation of these projects.

6) Since our issue is devoted to "Aging seniors of Asian-Indian origin" can you tell us a little bit about swallowing disorders in old age?

Like most biological functions of our body, swallowing also changes as we age. Specifically, as we age our tissues change in their composition and their appearance, and all of our motor and sensory responses typically slow down. We lose muscle mass (a phenomenon called sarcopenia) and our sensory perceptions decline. An increased prevalence of swallowing changes in healthy aging, in the absence of disease, is well reported in the literature and is termed presbyphagia. Common changes in the aging swallow include: reduced tongue and pharyngeal strength, reduced efficiency in chewing, increased time to prepare the food to a consistency that is ready to swallow, delayed swallowing response, reductions in taste perception and increased instances of penetration (i.e., material trying to trickle down the wrong pipe). Although these changes typically occur in a very slow rate and overall do not significantly affect the functional eating skills of most healthy elders, they should not be disregarded. The reason is that these changes can place older adults at risk for dysphagia, especially when swallowing comorbidities such as dry mouth, reduced esophageal motility, or sensory and taste changes are also present, or when a disorder or disease is identified. A promising research avenue has recently been proposed on preventing swallowing decline in healthy elders by completing head and neck exercises before a disease or disorder surfaces in an effort to build the swallowing functional reserve. This could prove to be very useful for our older population. However, persuading a healthy elder to take on swallowing exercises as a hobby may be challenging! But, it is definitely a challenge worth exploring!



RESEARCH

The Changing Landscape: Personalized Rehabilitation using iPADs

About 795,000 Americans each year suffer a new or recurrent stroke. That means, on average, a stroke occurs every 40 seconds. Americans paid about \$73.7 billion in 2010 for stroke-related medical costs and disability and this cost is expected to rise. Additionally, stroke is the leading cause of serious long term disability in the US. Aphasia (or the inability to communicate) is the effect of a stroke in the left (and sometimes right) hemisphere of the brain. It is estimated that approximately 80,000 individuals acquire aphasia each year and about 1 million persons in the U.S. currently have aphasia (NIDCD.gov). Typically, if the symptoms of aphasia last longer than three months after stroke, complete recovery from aphasia is unlikely. These individuals likely require longterm aphasia therapy. There is a large body of research evidence suggesting that individuals with aphasia continue to improve their communication skills over their lifetime due to the innate plasticity of the brain. However, for most patients, insurance mostly covers the acute in-hospital and initial rehabilitation services. By the time the patients are discharged from the hospital (which is an average of 27 days after their stroke), they are in dire need of continued speech-language therapy but insurance coverage is limited. To compound this issue, most individuals with aphasia also have some form of physical limitations (paresis) and are thus dependent on caregivers for their daily activities of living. There is, therefore, a huge need to continue long-term therapy. However, insurance limits to therapy reimbursement and physical limitations are huge barriers for these individuals.

While technological innovations have changed the fabric of our daily lives, they are also beginning to change the delivery and monitoring of health and clinical services. An area that is poised to grow in the next few years is the expansion of tablets, cloud-computing and other technologies to facilitate connected and continuing health care services. Clinicians can now monitor compliance activities of their patients and have access to data and tools to aid their clinical diagnosis and treatment. These technologies also enhance the clinician's role in creating a collaboration between the patients, caregivers and other clinical team members.

One such example of a cloud-based software platform delivered through an iPad is Constant Therapy. A preliminary study was conducted to examine rehabilitation outcomes in patients who received continuous and self-paced rehabilitation language and cognitive program using iPads [1]. Fifty one patients with a diagnosis of stroke or TBI and consequent language/cognitive deficits were evaluated and initiated with a treatment plan in the clinic. The treatment plan in the clinic and at home was delivered to the patient via the Constant Therapy Software (<u>www.constanttherapy.com</u>) platform. Experimental patients practiced the therapy tasks at home on a daily basis but at individualized times/durations and with a clinician in the clinic once a week. The control group only practiced the therapy tasks?), patient engagement (how long did they practice the therapy tasks?) and amount of improvement on each task (percent change over time?) was measured.

Dr. Swathi Kiran



Swathi Kiran (Professor, Speech Language and Hearing Sciences) studies the development of various rehabilitation approaches and mechanisms of neural plasticity in individuals with post-stroke aphasia.

Her research examines neuroimaging, structural and functional connectivity analyses after rehabilitation in monolingual and bi/ lingual individuals with aphasia. These studies examine left hemisphere undamaged regions of the cortex as potential regions within the language network that are engaged in the service of language recovery. She is also interested in identifying predictors of language recovery after rehabilitation and uses computational modeling to simulate and predict treatment outcomes in patients with bilingual aphasia.

She has over 60 publications and her work has appeared in high impact journals across a variety of disciplines including cognitive neuroscience, neuroimaging, rehabilitation, speech language pathology and bilingualism. She is a fellow of the American Speech Language and Hearing Association and serves on various journal editorial boards and grant review panels including at National Institutes of Health. Her work has been continually funded by the National Institutes of Health/NIDCD and American Speech Language Hearing Foundation awards including the New Investigator grant, the New Century Scholar's Grant and the Clinical Research grant.

....CONTINUED

Thirty-seven treatment tasks were developed based on a review of evidence based treatment recommendations from various sources, including Speechbite (<u>http://speechbite.com/</u>), PubMed (National Center for Biotechnology Information, U.S. National Library of Medicine, Bethesda, MD), and Google Scholar (Google Inc., Mountain View, CA). The tasks were divided into a hierarchy and classified as either language or cognitive tasks (see Table 1). See Figure 1 for example tasks. All stimuli were developed for the purpose of the software platform, most tasks consisted of at least 150 items per difficulty level. The single word language tasks were drawn from a database of 680 single concrete words distributed across semantic categories. Stimuli for cognitive tasks ranged anywhere from 150 items per task to a large set of items (e.g., addition of five digit numbers) in other tasks.



Table 1: (a) Language therapy

Prior to the initial session with the iPad, the clinician would assess the strengths and weaknesses of each participant based on their language and cognitive profile as a result of performance on the standardized tests including *Revised-Western Aphasia Battery* (R-WAB [2]), *Cognitive Linguistic Quick Test* (CLQT [3]). From that profile, a set of potential tasks were selected for each participant to complete during the initial session. Detailed procedures of how the therapy is standardized across participants but individualized for each participant are described in a previous study [4]. Briefly, the clinician assigned an individualized treatment plan (manipulating the level of difficulty and the number of items) consisting of subset of tasks described above and could monitor the performance on a real-time basis (see Figure 2a). Patients logged into their account and practiced the assigned treatment tasks in the order assigned by the clinician (see Figure 2b). When examining the results, the experimental and control

....CONTINUED

groups did not differ in terms of the duration of therapy (control participants M = 11 weeks, experimental participants M = 11.5 week), however on average, control participants worked on the application for 34 minutes each week and the experimental participants worked on the application for 3 hours and 15 minutes each week.



Table 1: (b) Cognitive tasks on Constant Therapy

Mixed regression models showed that participants improved in latency and accuracy on several therapy tasks that was dependent on the initial level of impairment. Results showed that more severe patients tended to benefit more on the easier low level tasks, whereas less severe patients tended to benefit from the higher level tasks that typicality required a combination of language and cognitive processing. In addition, experimental participants showed more significant and positive changes in their standardized tests than control participants but this was to be expected given the difference in the amount of practice the experimental patients received. Overall, these results provided preliminary but important evidence that systematic, structured, tablet-based and individualized therapy can be provided to patients with chronic language and cognitive impairments.

Since this study examined rehabilitation in brain damage in a very controlled/supervised research study, the real impact of this work is when this approach is evaluated in a less supervised and diverse clinical environment. There are several possible scenarios where the applicability of a remote based therapy program can be examined. For instance, in community based settings, patients with chronic aphasia come in periodically for community/social interactions but do not get systematic intensive therapy. If these individuals have iPads at home, participants could practice therapy tasks at home and therapy gains can be measured. An example of such a program is at the Aphasia Resource Center at Boston University, where participants come to the center for a weekly check-in with student clinicians who monitor patient improvements on the

....CONTINUED

Constant Therapy program and work with the patients to manage their rehabilitation program. As Van de Sandt-Koenderman points out, with increasing use of web-based therapies the role of the clinician will transform to becoming an "orchestrator" of their patients' rehabilitation [5].



Figure 1: Sample language and cognitive tasks from the Constant Therapy software platform.

Alternatively, in acute care settings, the questions can be focused on whether patients show quicker improvements on their identified deficits, and whether there is a cost-effectiveness in using technology. Another question that remains unanswered is whether there is a cost-benefit of using an iPad based treatment versus traditional therapy methods. In theory, a therapy platform where patients can practice therapy exercises at home *in addition to* one-on-one sessions with a clinician should lead to greater efficiency and cost-savings to achieve the same level of patient improvement. This assumption needs to be validated with systematic examination.

Importantly, providing patients and their family members' real-time visibility on patient progress can motivate them to be better integrated with their care. Not only does this empower patients to manage their own therapy, it allows them and their clinicians to monitor their performance in ways that allow detection of adverse events and changes in performance [6]. Finally, innovative technologies that can be used to facilitate connected health can be potential game changers in places where service is sparse or difficult to reach. A prime example is in India, where the number of patients needing clinical services overwhelmingly outnumbers the clinicians available to provide such services. Moreover, socio-cultural norms in India preclude chronically disabled individuals from reaching out for sustained rehabilitation programs. Rehabilitation services are either provided at home, at select rehabilitation centers in metro cities or not at all. The potential predilection for technological innovations in India, may in this case, serve as a useful alternative to this practical yet intractable problem. A lot of work needs to be done in this regard, but there are several opportunities. Ultimately, we need to be combining the highest and rigorous standards for evidence based practice with therapy delivery approaches that actually impact patients' lives, otherwise, our responsibilities as clinicians, will remain unfulfilled.

....CONTINUED



Figure 2: Sample (a) patient view dashboard that allows the patient to examine their own progress, and (b) clinician view dashboard that allows the clinician to monitor therapy compliance and progress.

To conclude, there is a tremendous potential for technology to enhance current efforts in rehabilitation by providing continuous therapy at home. Clearly, principles of experience-dependent plasticity would suggest functional degradation may occur without sufficient training to drive a brain function and vice-versa training of a specific behavior may enhance brain function (i.e., use it or lose it and use it and improve it) and that repetition and intensity matters in plasticity [7]. In addition, although this needs to be further examined carefully in a cost benefit analysis, current innovations in technology have the potential to reduce healthcare related spending due to accessibility to services and the consequent patient-centered management of rehabilitation. While the data provided here are mostly relevant to post-stroke patients with language and cognitive deficits, it would hopefully be extended to individuals with dementia and other neurodegenerative diseases.

Disclosure: Swathi Kiran has significant financial interest to disclose. She is the co-founder and scientific advisor for Constant Therapy, the software platform discussed in this article.

References

1. Des Roches, C., et al., *Effectiveness of an impairment-based individualized treatment program using an iPad-based software platform* Frontiers in Human Neuroscience, submitted.

2. Kertesz, A., The Western Aphasia Battery-Revised. 2007, Psych Corp: San Antonio, TX.

3. Helm-Estabrooks, N., *Cognitive Linguistic Quick Test: Examiner's Manual*. 2001: Psychological Corporation.

4. Kiran, S., et al., *Development of an Impairment-Based Individualized Treatment Workflow Using an iPad-Based Software Platform.* Seminars in Speech and Language, 2014. **35**(1): p. 38-50.

5. van de Sandt-Koenderman, W.M., *Aphasia rehabilitation and the role of computer technology: can we keep up with modern times?* Int J Speech Lang Pathol, 2011. **13**(1): p. 21-7.

6. Kiran, S., *Detecting Small and Large Fluctuations in Language and Cognitive Performance: A Longitudinal Rehabilitation Case Study.* International Journal of Physical Medicine & Rehabilitation. Special Issue: Stroke Rehabilitation, 2014. **2**(3).

7. Kleim, J.A. and T.A. Jones, *Principles of experience-dependent neural plasticity: implications for rehabilitation afterbrain damage.* J Speech Lang Hear Res, 2008. **51**(1): p. S225-39.

RESEARCH

Cultural Perceptions of Illness in the Older Asian Indian Population

Introduction

The act of constructing stories is a natural human process that helps individuals better understand their experiences and themselves (Pennebaker, 2000). This is especially true when an individual suffers from an illness. Illness narratives are an effective way for the person affected to make sense of his or her experiences. From a clinical standpoint, illness narratives are of great value as they bridge the gap between the person suffering from the illness and the listener (Charon, 2001). This value is further highlighted when dealing with individuals from different cultural backgrounds. Given the importance of cultural sensitivity in medicine, this study deals with illness narratives of individuals from four different cultural groups, namely- Caucasian Americans, Hispanic Americans, Filipino Americans, and Asian Indian Americans. It aims to identify common themes in the narratives across different cultural groups and also to isolate themes that may be unique to a specific cultural group. Findings related to the cultural perceptions of illness among the older Asian Indian population are discussed further in detail.

Asian Indian Population

Indian Americans, numbering 3.34 million, are the third largest Asian community in the United States (Center for American Progress, 2012). In order to care effectively for elders from Asian Indian backgrounds, it is imperative for healthcare providers to be familiar with the cultural beliefs that influence their perceptions towards illness and healthcare. A number of cultural elements that typify the Asian Indian population have been discussed in the literature, which include but are not limited to the following:

Diversity

Asian Indian immigrants are a heterogeneous group, representing people of varying socioeconomic statuses, education, places of residence, lifestyles and backgrounds. Although the national language is Hindi, a plethora of languages and dialects are spoken by people from different regions of India. Older Asian Indians may not speak English fluently and may require translators for communication. There is no single unifying faith for Asian Indians; majority practice the Hindu religion, while others practice religions such as Sikhism, Buddhism, Christianity or Islam.

Religion

Religion plays an important role in shaping the health decisions of older Asian Indian immigrants. When considering healthcare, belief in traditional practices such as Ayurvedic medicine still exists, with a focus on attaining physical, mental and spiritual balance. Herbal and home-based

Rinki Varindhani



Rinki Varindani, M.S.CCC-SLP is a Vitalstim[®] certified medical speech-language pathologist, educated and trained in India as well as the United States. She specializes in the assessment and treatment of speech, cognitive*linguistic, voice and swallowing* disorders in the adult neurogenic and geriatric population. She enjoys her job as a full-time SLP in a long term acute care hospital in Dallas, Texas and is currently pursuing Board Recognition as a Swallowing Specialist. In addition to being the administrator of the Medical SLP Forum and Dysphagia Therapy (Professional Edition) Facebook groups, Rinki also blogs at www.rinkislp.com.

RESEARCH *CULTURAL PERCEPTIONS OF ILLNESS*

....CONTINUED

remedies are common. Many Hindu elderly focus spiritually on preparing the soul for life after death. Religious beliefs impose a number of dietary restrictions as well.

Customs

In the Asian Indian community, roles of individuals are typically defined according to age, sex and status. Men generally play a key role in decision-making. Modesty is highly valued and patients usually feel more comfortable with same-sex care providers. Older Asian Indians are likely to take a passive role in the healthcare exchange and are more likely to subscribe to family-centered decision-making rather than being autonomous.

Cross cultural study of Illness Narratives

Recognizing the impact of culture on the perception of illness, this cross cultural study was carried out to collect, analyze, compare and interpret the illness narratives from four different elderly ethnic groups.

Research Questions

What are the main themes expressed in the illness narratives of elderly individuals from different ethnic groups?

How do the themes expressed reflect common concerns and cultural values and beliefs? How do the themes expressed reflect differences in culture and perceptions of illness?

Methodology

Open-ended interviews eliciting illness narratives were conducted with 101 elderly participants from 4 different ethnic groups namely; Caucasian Americans (22), Filipino Americans (21), Hispanic Americans (33) and Asian Indian Americans (25). Purposeful sampling was used to find suitable participants. All interviews were conducted by members of the respective ethnic group. Participants were asked to narrate what happened to them during an illness experience. An in-depth content analysis was completed by identification of the main themes expressed in the illness narratives.

Results and Discussion

Six common themes were identified in the illness narratives of all the elderly participants namely: *Fear, Independence* (in making medical decisions), *Religion/Spirituality* (as a support system), *Family* (as a support system), *Medical Knowledge* and *Perception of medical care*. Fear at the time of illness was the most common theme expressed in the narratives across all cultural groups. It was found that the participants from different groups relied on similar support systems (such as turning to religion or family/friends) to help them cope with illness. However, differences were observed in the level of dependence on each of these support systems among different groups. Additionally, there were some distinctive findings in the Asian Indian elderly group. These were consistent with what is known about this population from literature, as discussed earlier. Religion as a support system was the most recurrent theme in the illness narratives of the Asian Indian elderly. Many suggested embracing prayer and religious healing to overcome illness. Illustration: *"It was God who saved me. Had it not been for God, I would not have made it!"* The second most common theme in the Asian Indian group was dependence on family as a support system. All participants lived in joint family units with their children. Many suggested it is common for healthcare decisions to be discussed within the immediate family before seeking outside help. Most participants indicated they did not possess adequate medical knowledge. Many suggested reliance on traditional Indian medicine for treatment. Finally, there appeared to be a negative perception of Western healthcare among the participants.

RESEARCH *CULTURAL PERCEPTIONS OF ILLNESS*

....CONTINUED

Limitations

Different participants provided varying degrees of information in their narratives since cultural differences exist with regard to disclosure of personal information to a stranger. Additionally, the identified themes were not further probed through interviews.

Clinical Implications

Results of this cross-cultural study indicate that different cultures have diverse health beliefs that explain what causes an illness, how it should be treated and who should be involved in the process. The level of dependence on self, family or other support systems differs from one group to another. When working with culturally diverse patients, it is critical for healthcare providers to demonstrate a greater level of understanding, respect for and sensitivity towards the patients' cultural beliefs, values and traditions. Demonstrating awareness of the impact of culture on a patient's perception of illness promotes trust, leads to higher rates of acceptance of diagnoses, improves treatment adherence and can thus improve the overall quality of care.

References

1. Ananth, J. (1984, October). Treatment of immigrant Indian patients. Canadian Journal of Psychiatry. 29, 490-493. Charon, R. (2001). Narrative Medicine: A Model for Empathy, Reflection, Profession, and Trust. JAMA, 286:1897-1902.

2. Charon, R (2006). Narrative Medicine: Honoring the Stories of Illness. NY: Oxford University Press.

3. Doorenbos, A.Z. (2003). Hospice access for Asian Indian immigrants. Journal of Hospice & Palliative Nursing, 5(1), 27-33.

4. Kalavar, J. M. (1999). Intergenerational relations and service utilizations: The experience of Asian Indian elderly in the United States [Research abstract]. Bethesda, MD: National Institute on Aging.

5. Ma, G.X. (1999). The culture of health: Asian communities in the United States. Westport, CT: Bergin & Garvey.

6. Mattingly, C., & Garro, L. C. (2000). Narrative and the cultural construction of illness and healing. Berkeley: University of California Press.

7. Pennebaker, J.W. (2000). Telling stories: Health benefits of narrative. Literature and Medicine, 19, 3-18. Ramakrishna, J., & Weiss, M.G. (1992). Health, illness, and immigration: East Indians in the United States. Western Journal of Medicine, 157(3), 265-270.

ASHA CORNER

Resources on Multiculturalism

The practice of speech language pathology and audiology is demanding, in particular because of a growing emphasis on productivity in the workforce and the challenges of serving an increasingly diverse and aging population. Advances in medical care are allowing individuals to live longer and to live with chronic health conditions. There is no one size fits all approach to treatment. To provide quality services, clinical practitioners must integrate evidence into practice, use clinical expertise and judgment, and factor in the client/patient/caregiver perspective. These perspectives may be influences by how that particular family views the typical aging process, the influence of religious and faith based practices as well as the roles that each family member fills based on age and/or gender. Patient values should be respected and incorporated into a plan that meets the needs of the patient while respecting the familial structure and roles as much as possible. ASHA has resources to help busy members deliver clinically appropriate and culturally relevant services to diverse populations.

Each family and patient that you encounter will have different variables and unique beliefs/values. These values and beliefs will assist in establishing treatment goals and intervention plans. Due to the unique and dynamic nature of culture, the development of cultural humility in the provision of services is a lifelong journey. Therefore, clinicians need to become familiar with resources in assisting them to identify those aspects of culture which may influence service delivery.

ASHA Web Resources

1. NEW! ASHA Practice Portal—ASHA's new go-to resource for members to find vetted practice guidelines on a range of clinical topics and professional issues. The content has been developed with input from experts who have integrated available evidence.

a) Clinical topics at <u>www.asha.org/Practice-Portal/Clinical-Topics/</u> include:

- Aphasia
- Autism Spectrum Disorder
- Dementia
- Hearing Loss, Ages 5+ (coming soon)
- Newborn Hearing Screening
- Pediatric Dysphagia
- Permanent Childhood Hearing Loss
- Social Communication Disorders
- Speech Sound Disorders: Articulation and Phonology

Andrea Moxley



Andrea "Deedee" Moxley, MA, CCC-SLP, is ASHA's Associate Director for Multicultural Resources. Primary duties include co -management of the S.T.E.P. Mentoring Program and assisting in the development of practice resources for provision of service delivery to diverse populations.

ASHA CORNER RESOURCES ON MULTICULTURALISM

....CONTINUED

Each clinical topic incorporates relevant information about health disparities, disproportionality, and research on multilingual populations, and aspects of culture that may influence service delivery.

b) Professional Issues at <u>www.asha.org/Practice-Portal/Professional-Issues/</u> include:

- Audiology Assistants
- ♦ Bilingual Service Delivery
- Caseload/Workload
- Classroom Acoustics
- Collaborating With Interpreters (coming soon)
- Cultural Competence
- ♦ Speech-Language Pathology Assistants
- ◆Telepractice
- ♦ Unbundling Hearing Aid Sales

2. Cultural and Linguistic Resources

Clinically competent services are culturally appropriate services. *Cultural competence* is a term that has been used through the years to describe the continued development of skills for working with diverse populations. However, *competence* implies that you can develop and master the skill. Culture is dynamic and changing. Each clinical interaction is unique and must be approached with humility and respect for the individual needs of the client/patient/ caregiver. The following resources may help clinicians reflect on the influence that culture and language may have on those interactions.

a) Phonemic Inventories Across Languages at www.asha.org/practice/multicultural/Phono/—links to linguistic resources for a number of languages and cultural and refugee profiles

b) Self-Assessment for Cultural Competence at www.asha.org/practice/multicultural/self/—a tool to increase awareness of the potential influence of culture in service delivery

3. Consumer Materials

Content developed from the consumer perspective that reflects the principles and goals of *health literacy*. These materials are not intended to serve as a substitute for patient and caregiver counseling, but a supplement to the services and education provided by the clinician. Materials are available in English and Spanish at this time.

a) Audiology Patient Education Materials www.asha.org/aud/pei/

b) ASHA's Information for the www.asha.org/public/

ASHA CORNER RESOURCES ON MULTICULTURALISM

....CONTINUED

4. Connecting With Peers

Brainstorming and networking with colleagues online offer opportunities to share perspectives and resources.

a) New! The ASHA Community at http://community.asha.org—a free online discussion forum. Discussion groups cover a range of topics, including setting-specific speech-language pathology issues, audiology practices, and CSD research, for example. The ASHA Community creates unique opportunities for members to connect with each other, share professional resources, and ask questions. Recent active discussion topics include UTI and cognitive evaluations, documentation in hospitals when the clinician doesn't see the patient, and big box hearing aids. An insider tip: if you do participate in a group, take the time to customize how you receive subscription e-mails (real-time or daily).

b) ASHA Special Interest Groups at www.asha.org/SIG/Join-a-Special-Interest-Group/—exclusive professional communities within the ASHA membership that focus on specific topics in speech, language, hearing, and related areas. There are 18 different groups that you may join for a fee of \$35 annually per group. Since 2012, all SIG affiliates are able to access every SIG's online member publication, *Perspectives*—that's 200 new articles annually and more than 2,500 archived articles! And, each SIG has its own online community.

Professional competence across professions and settings requires that audiologists and speech-language pathologists (SLPs) practice in a manner that considers the impact of cultural variables and language exposure and acquisition on their clients/patients. ASHA's professional practices staff can provide assistance and resources in making this determination and in identifying resources to continually enhance cultural competence. If you have any questions or needs, please do contact us at <u>multicultural@asha.org.</u>

AIC-SLP CORNER

Indian English versus American English Tips from an Accent Reduction Expert

Every language has its own sound system, grammar rules and intonation patterns which makes it unique. Being from an Indian background, there are several differences between how you speak English and what we call standard American English.

Here are a few examples of these differences:

1. Indian languages are generally spoken at a much faster rate than American English, so you are used to speaking quickly.

2. The "t" and "d" sounds are most often pronounced further back in the mouth, which makes them sound too "heavy". In general, the plosive sounds are produced using hard contacts, whereas in American English, they are produced using soft, relaxed contacts.

3. A heavy "d" sound is substituted for the voiced "th" sound in words such as the, there, mother, brother, etc.

4. The "r" sound is also pronounced very differently and will likely affect your accent the most because "r" is the most common occurring consonant in American English. In Indian languages such as Hindi, "r" is produced toward the front of the mouth while in American English, it is produced toward the back.

5. There is no differentiation between the "v" sound and the "w" sound in words such as we, will, went and where. For example, "we" might be pronounced as "vee" and "very" might be pronounced as "werry".

6. Syllable stress is another important area of contrast. Stressing the wrong syllable in a word can make it extremely difficult for American English speakers to understand. A few examples of some common words Indian English speakers usually stress incorrectly include development, alternative, economize, optimize, etc.

Understanding and improving your awareness to these differences can lead you to become an effective communicator.

Happy Holidays from the Better Speech Now Team, NYC

Sonu Sanghoee M.S., CCC-SLP

Better Speech Now, NY

CLINICAL INNOVATIONS

Using the Virtual World to Enhance Social Communication Skills in Real World

Social impairments present challenges for individuals with autism as they seek to build relationships, function in the workplace, and participate and integrate into the community. Earlier interventions using computer-assisted instructions to improve the social skills of individuals with autism had limitations, because participants did not generalize the learned skills outside the treatment context. Recognition of this challenge has led to the development of interventions incorporating contemporary technology

For example, virtual reality (VR), a high sophisticated computer-assisted technology which, like video modeling, relies on the effective presentation of audiovisual information via a television or computer screen, has recently been adopted as a tool in education, treatment, and research (Plogg, Scharf, Nelson, & Brooks, 2013). VR allows individuals with autism to practice dynamic, realistic social interactions in computer-based simulations that present on screen visual representations based on daily social communicative situations. VR also simulates naturalistic social communicative contexts, which relieves the fear of making mistakes or being rejected as is commonly experienced in face-to-face interactions. Finally, VR can provide repeated exposure to and practice in an unlimited range of replicable social contexts, which is a key element in interventions for individuals with autism (Wallace, Parsons, Westbury, White, & Bailey, 2010). In helping individuals with autism, VR draws upon their interest in computers and visually presented information in order to increase their motivation and investment in the treatment and generalization (Parsons & Mitchell, 2002).

Only a few studies have tested facial and emotional recognition by individuals with autism using VR avatars with synthetic speech and prosody. Mineo, Ziegler, Gill, and Salkin (2009) investigated the use of VR and its effects on engagement in 42 children, ages 6 to 18, with autism and some language deficiencies. Engagement was measured by the length of time children gazed and the number of utterances they produced during 3 activities: *self-video* (children viewed themselves engaging in selfawareness activities), *other VR* (children viewed others in a VR system), and *self-VR* (children viewed themselves engaged with a VR system). The results did produce clear interpretations. Measured by gaze, children with ASD showed greater preference for *self-video* and *self-VR* than *other VR*. However, measured by utterances, children with ASD demonstrated preferences in following order: *other VR, self-VR*, and *self-video*. As well, participants' performance from at baseline and in experimental conditions did not differ consistently. Given these limitations, "this study

Dr. Ravi Nigam



Ravi Nigam is an Associate Professor of Communication Disorders at Governors State University and President of SpeechCare Consultants. His areas of research interests are: use of mobile technology for communication, parentimplemented early language learning, and intervention strategies for early literacy skills. Contact: <u>ravi@ravinigam.com</u>, or visit www.ravinigam.com

CLINICAL INNOVATIONS VIRTUAL WORLD FOR SOCIAL COMMUNICATION

....CONTINUED

provides evidence to suggest that virtual reality is a tool to engage children with ASD in focusing to audio-visual; however, it is not clear which of the three conditions will be more effective" (Plogg et al., 2013).

Grynszpan, Martin, & Nadel, (2008) provide another example of research on the use of VR with children with autism. This study examined whether, for children with autism, instructions received via VR human characters and cartoon characters which express emotions is more effective than instructions delivered without facial expressions. Across formats (VR characters, cartoons), children with autism demonstrated an above-average rate of recognition of facial expressions. This finding suggests that children with autism can recognize emotional expressions in synthetic stimuli. To test whether the training could be generalized, the researchers staged a game called Intruder, which posed the additional difficulty of out-of-context information presented in two conditions: a) text only and b) a complex multimedia format (text, synthetic voice, images). The results indicate that children with autism performed better in the text-only condition at recognizing irrelevant, out-of-context or socially irrelevant statements. The confusion caused by the multimedia format provides further evidence that children with autism have atypical attention patterns (Ploog & Kim 2007).

One recent study by Kandalaft, Didehbani, Krawczyk, Allen, & Chapman (2013) examined the use of VR in adults with autism. The researchers developed the Virtual Reality Social Cognition Training (VR-SCT) intervention, focusing on improving social skills and social cognition and functioning. The VR-SCT was developed to provide realistic, dynamic opportunities to practice social communication skills and to gain feedback in social scenarios relevant to young adults, such as fast food restaurants, coffee houses, outlet stores, and technology shops. Avatars representing the user in the virtual world were modeled for every participant and the instructor. After 10 sessions of the VR-ST intervention over 5 weeks, significantly improved results were reported for emotion and face recognition, day-to-day social interactions, and occupational functioning. Results obtained from the 6-month follow-up telephone questionnaire indicated that all eight adults with autism improved their ability to maintain a conversation and would recommend the intervention to others. Other skills where participants showed marked improvement were understanding's other individual's point of view, developing meaningful relationships, and improved performance at jobs.

Overall, the results from these studies provide some initial insights for the practicality and use of VR to improve the social and communication skills of individuals with autism. VR offers a platform for delivering training in social and communication skills with an interactive and visually stimulating social contexts and results from some of the above-mentioned studies suggest it to be an effective intervention strategy for basic to complex social interactions skills in individuals with autism (Kandalaft et al. 2013).

References

1. Grynszpan, O., Martin, J., & Nadel, J. (2008). Multimedia interfaces for users with high functioning autism: An empirical investigation. *International Journal of Human-Computer Studies, 66,* 628-639

2. Kandalaft, M. R., Didehbani, N., Krawczyk, D. C., Allen, T. T., & Chapman, S. B. (2013). Virtual reality social cognition training for young adults with high-functioning autism. *Journal of Autism and Developmental Disorders, 43*, 34-44.

3. Mineo, B. A., Ziegler, W., Gill, S., & Salkin, D. (2009). Engagement with electronic screen media among students

CLINICAL INNOVATIONS VIRTUAL WORLD FOR SOCIAL COMMUNICATIONS

....CONTINUED

with autism spectrum disorders. Journal of Autism and Developmental Disorders, 39, 172–187.

4. Parsons, S., & Mitchell, P. (2002). The potential of virtual reality in social skills training for people with autistic spectrum disorders. *Journal of Intellectual Disability Research.* 46, 430-443.

5. Ploog, B. O., & Kim, N. (2007). Assessment of stimulus over selectivity with tactile compound stimuli in children with autism. *Journal of Autism and Developmental Disorders, 37*, 1514–1524.

<u>6. Ploog</u>, B. O., Scharf, A., Nelson, D., & Brooks, P. J. (2013). Use of Computer-Assisted Technologies (CAT) to enhance social, communicative, and language development in children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, *43*, 301-322.

7. Wallace, S., Parsons, S., Westbury, A., White, K., & Bailey, A. (2010). Sense of presence and atypical social judgments in immersive virtual environment: responses of adolescents with autism spectrum disorders. *Autism*, *14*, 199-213.

VOICE

The Strength in Persistence

Change is a fact of life and so is aging. Change can either be a very enjoyable experience or an extremely stressful one. It is all in the way you view it. Same can be said of aging and the situations it brings with it.

I was in my early 40's when I moved to the U.S. from India. I was very excited at the prospect of living in the U.S at the same time was apprehensive about leaving my extended family and friends and with that my support system behind. One realizes the value and importance of the support and comfort available through friends and family, only when they no longer have it. This is felt more intensely if you have to handle a stressful situation on your own.

I was faced with just such a situation, a few years after I settled down in the U.S. I had to undergo throat surgery for the removal of a growth and the treatment that followed affected, among other things, my singing voice. Yes, I used to sing and teach Indian classical vocal music which made it extra hard to bear the change. My doctor tried to prepare me to accept the fact that I may not be able to regain my voice completely. He recommended voice therapy and advised that I keep my mouth and throat hydrated to relieve me of the parched feeling. I could not accept that I may not be able to sing.

I continued to try singing, even though my voice was raspy and lacked any melody and it was also an effort to sing as my mouth would go dry just for singing a line or two. I had to keep taking sips of water after every line that I sang. My family was very concerned and anxious that I was possibly causing more damage to my voice by trying to sing when it was a strain. That did not deter me from my effort. I was determined to work towards getting back my voice. I took my doctor's recommendation to undergo voice therapy. I took some voice therapy sessions at All India Institute of Speech and Hearing, Mysore and Texas speech lab in Houston, Texas which greatly helped in my effort.

I renewed my music classes, teaching one or two students at a time. Though it was a lot of effort initially, it got better as I kept at it. It has been more than seven years since I had the surgery and today I have almost completely recovered my singing voice and can confidently recommend to people in similar situations to never give up. It might seem impossible to begin with, but if you persevere, you can achieve the impossible. There is help out there and will be available only if you seek it.

Mrs. Revathi Ravi



Revathi Ravi, was born and raised in Mysore, India. She graduated from University of Mysore with a Master's degree in English Literature in 1976. She has lived in Singapore for a number of years and taught English at schools in Singapore and ESL in the U.S. She actively teaches Indian Classical vocal music and manages a music band. She currently lives in Sacremento, California with her family.

CONGRATULATIONS!!!!

Northern California First Lego League Robotics Team

Northern California First Lego League Robotics team, Phoenix Fury made up of kids aged 11-13yrs old are working on a project that will reduce the language barrier for English learners through their innovation in technology. Today, Immigrant students from other countries joining our public school system are thrown into a foreign world with unfamiliar culture and language. According the US Department of Education, there are estimated 4.4 million English Learner students in our schools. Teacher's face a huge challenge in communicating with these students due to the language barrier and there is also no easy way for students to quickly learn the new language. These young robotics kids are out to solve this problem and remove the language barrier through their innovative solution 'iLearn – A Personalized Translation Aid'. iLearn is a personal aid for the immigrant students in class and at home. This innovative solution is specifically designed to help students by providing much-needed key vocabulary translation in the language that the kids know so they can understand teachers instruction in class. In addition the solution acts as a personal aid for the students at home so the kids can complete their homework independently. iLearn also motivates kids with games tailored to their level that will also teach kids in a play way method. iLearn is a software application that integrates translation services with speech to text conversion to provide real-time help for students. Robotics team got interested in this project by observing the challenges faced by English Learners in school. This team is planning to compete in the US First Robotics competition and present their innovative solution. We wish them good luck !



Phoenix Fury Team with their 2014 Robotics Trophy: (L-R) Aiden Szeto, Akshay Srinivasan, Vishal Saikrishnan, Amrita Srinivasan, Nicole Schneiderman, Hanna Beckman, Jeremy Szeto



SHARE YOUR ACHIEVEMENTS WITH US!!!

AIC would like to feature any recent awards, titles, publications, scholarships and media coverage received by our members in the "PEOPLE'S SECTION" of ASHAKIRAN '15 newsletter. This is a great way to showcase your accomplishments and share insights about your work and vision among our patrons. If you are interested in sharing any news about your recent professional achievements, please send us an email (asianindiancaucus@gmail.com)

WANT TO KNOW MORE ABOUT AIC?

Like us on our Facebook pagehttp://goo.gl/kgCqK

