



# Perspectives in Pediatric Neuro - Rehabilitation

The two day conference with its galaxy of professionals who have extensive hands-on experience in Pediatric Neuro-Rehabilitative Care, will engage us with talks enlightening and empowering the participants with the needed knowledge while handling neuro-rehabilitation care.

It is your forum to **associate** with, **acquire** knowledge, skills and contacts and **achieve** your career ambitions.

SOUVENIR

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Silver Jubilee Auditorium

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<u>HOST</u>



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## ABOUT US

Nishta Center of Excellence (NICE) is a reflection of our academic thirst and thrust to the community. Evidence based scientific practices are the golden standards for our profession and at NICE we strive towards inculcating this spirit. Time and again we have programs aimed at professionals, parents and the community to share and deliberate on neuro-development. Our talented team of professionals have been engaging in continued research and NICE is the forum for this.

Our directors Dr. Subramanian and Dr. Meenakshi, being neonatologists and by handling high risk babies have the insightful vision towards neuro-developmental care. Their mission - to enable new horizon for the neuro-developmental challenges - has translated into Nishta Centre.

Our first NCORE — (NICE Conference on Rehabilitation) conference focuses on Pediatric Neuro rehabilitation. The journey of a child to adolescence and into adulthood in the context of rehabilitation has its challenges. A spectrum of care has to be there throughout. The focal point of this conference has been this facet - a multi-disciplinary approach towards rehabilitation. This conference provides the platform for different teams to understand and appreciate the role of other teams to provide effective services.

Nishta enables new horizons for the client, professionals, students and the community.

WELCOME!



## FOREWORD

## Dear patrons,

It gives me great pleasure in bringing to you this souvenir NCORE 2018. Pediatric neuro rehabilitation is a vast ocean and we have tried to churn out few pearls of wisdom for you. This edition contains a brief about the programs, the abstracts of the posters presented and few articles which would come handy while you practice rehabilitation. In tune with the trend, we are offering it as an e-version so that it is available to you at the click of a button. We will also be providing links to the talks after the conference. Hope you enjoy this.

Warm Regards **Dr.S.Subramanian** 

Director NICE

Chennai

22 Sep, 2018



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## **GLEAMING GLIMPSES OF NCORE 2018**



















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# SCIENTIFIC PROGRAMME

DAY 1

22 Sep, 2018



### NEURODEVELOPMENT FOR THE NICU POPULATION

## Chairpersons

### Dr. Remachandramohan

MD(Ped) Professor of Neonatology, Developmental pediatrics ICH; President Chennai City Branch of IAP

**Dr. V.Prakash** *MD Neonatologist IOG* 



**Dr. Manigandan Chandrasekaran**MBBS, MD (UK), DCH, MRCPH (UK), FRCPCH (UK)

Speaker is a Senior Consultant Neonatologist at Cloud Nine hospital, Chennai. Trained in UK in Neonatology, Dr.Manigandan is an active member of various forums including National Neonatology forum and Indian academy of Pediatrics.

## **Developmentally Supportive care in Neonatal ICU**

With improvement in neonatal outcomes and rise in survival rates in preterm births, the NICU environment plays a vital role in directing the development of the infant. The role of developmental therapists starts right from the NICU in facilitating this progress. The speaker will elucidate this aspect of developmentally supportive care in Neonatal ICU.



#### NEURODEVELOPMENT FOR THE NICU POPULATION

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#### Dr. Remachandramohan

MD(Ped) Professor of Neonatology, Developmental pediatrics ICH; President Chennai City Branch of IAP

#### Dr. V.Prakash

MD Neonatologist IOG



## Dr. Meenakshi Jandhyala

MD (Ped), Consultant Pediatrician and Neonatologist, Senior Faculty DNB Program at St. Isabel's Hospital

#### Areas of interest

Newborn care, high risk infants and early intervention

# Neuro-Development Follow-up of the high-risk infant - "The Sweet Spot"

The high risk infant's journey out of the NICU is crucial as the infant is prone to face neuro-developmental challenges. Constant follow-up ensures early diagnosis and intervention, should the need arise. This critical aspect if appreciated by the developmental therapists, would go a long way in improving outcomes and the speaker will educate the audience about this.



## PEDIATRIC TRAUMATIC BRAIN INJURY AND REHABILITATION PRACTICES

## Chairperson

Dr. S.Thangavelu

MD(Ped) H.O.D. Dept of Pediatrics, Mehta's Multispeciality Hospital



Dr. Ashwini Mohan

MD (Ped) IAP Postdoctoral fellow in Neurology, Consultant Pediatric Neurologist Nishta Integrated Neuro Development Center

Dr. Ashwini has been working in the field of pediatric neurology for almost 10 years. Along with providing services as a consultant, she also constantly engages in research and presentations.

# Timing of Initiation of Rehabilitation in Pediatric traumatic brain injury- How early is Right?

Post TBI, rehab follows a regime geared towards positive outcomes. Unfortunately, seldom is weightage given for the rehabilitation process and timing. Dr.Ashwini will guide the audience on this timing which would prove useful while administering therapy.



## PEDIATRIC TRAUMATIC BRAIN INJURY AND REHABILITATION PRACTICES

## Chairperson

**Dr. S.Thangavelu** *MD(Ped) H.O.D. Dept of Pediatrics, Mehta's Multispeciality Hospital* 



Ms. Priya Govardhana
Clinical Psychologist, M.Phil. in Clinical Psychology
Assistant Professor in Psychology cum Clinical Psychologist,
Department of Child Psychiatry,
Institute of Child Health & Hospital for Children, Egmore, Chennai

**Areas of Interest**Diagnostics and psychometrics in children and adolescents.

## **Behavioural Sequel following TBI**

Following the immediate response to TBI, the next speaker will address the long term changes that becomes visible slowly. The possible changes in behavior, following the traumatic injury, along with its management, will be covered in this topic.



## PEDIATRIC TRAUMATIC BRAIN INJURY AND REHABILITATION PRACTICES

## Chairperson

**Dr. S.Thangavelu** *MD(Ped) H.O.D. Dept of Pediatrics, Mehta's Multispeciality Hospital* 



Ms. Malarvizhi
Associate Professor and Dean In charge
SRM College of Physiotherapy
SRM Institute of science and Technology

#### Areas of Interest

- Aerobics in Paediatrics.
- Functional electrical stimulation for Cerebral Palsy.
- Tempero mandibular mobilization.
- Physiotherapy for developmental coordination disorder.
- Effect of core stabilisation exercises on gait in cerebral palsy
- Effect of manual techniques in DMD

## Approaches and Innovations in rehabilitation techniques in TBI

The impact of brain injury needs more recognition. Given the underrepresentation of the subject and the dire need for it to be addressed, the speaker will talk about the various recent developments in the field.



#### REHABILITATION IN NEUROLOGICAL HEARING IMPAIRMENT

## Chairperson

**Dr. Anuradha** *MD (Developmental Pediatrics), Mehta's Multispeciality Hospital* 



**Dr. N.Shivashankar Ph.D.**HOD Dept. of Speech Pathology and Audiology NIMHANS

Dr. Shiva Shankar has been working in the department of Speech Pathology and Audiology for over 35 years. He is also a practitioner as well as a researcher in the field. He has been recognized for his work more than once by the Indian Speech and Hearing Association, the latest being in 2006 when he received the Bharath Award. He has also been invited to speak at international conferences on Speech Language and Hearing.

#### Area of Interest

- Neuroradiology
- ASD

# "What we do with what we hear? – A Central Auditory Processing Perspective"

Central Auditory Processing involves the central nervous system which uses auditory information for processing and communication. In other words, it's what the brain does with what the ears hear. The speaker will educate us about this.



### REHABILITATION IN NEUROLOGICAL HEARING IMPAIRMENT

## Chairperson

**Dr. Anuradha** *MD (Developmental Pediatrics), Mehta's Multispeciality Hospital* 



Mr. R.Ranjith

Managing Director and Principal,

MERF-Institute of Speech and Hearing (P) Ltd

Mr.Ranjith is the FIRST Audiologist in India, South and South East Asia to have worked on AUDITORY BRAINSTEM IMPLANT. He is one of the pioneers of Implantation Audiology in India and was responsible for starting Cochlear Implant clinics in many cities in India and abroad.

## **Hearing Restoration: Recent Advances**

The speaker will address the developments that have been taking place in the field of hearing restoration, along with other hearing rehabilitation. This will add to the armour of the developmental therapists.



#### REHABILITATION IN NEUROLOGICAL HEARING IMPAIRMENT

## Chairperson

**Dr. Anuradha** *MD (Developmental Pediatrics), Mehta's Multispeciality Hospital* 



**Dr. Deepa Sundareswaran**Principal, College of Occupational Therapy, NIEPMD

Dr. Deepa has around 20 years of experience on the field as a practitioner and has been interested in research as well. Along with intensively engaging in the field of occupational therapy, she has also undergone training in the field of psychological counselling.

# Comorbidities in Hearing Impaired- Role of Multidisciplinary team in Management

Hearing impairment may come with issues like sensory issues, learning difficulties, language development etc. In this context, a multidisciplinary team of developmental therapists need to work together to improve the outcome. Awareness of the comorbidities and their impact on outcomes will help in designing effective rehabilitation services.



#### **SPECIAL SITUATIONS**

## Chairpersons

### Dr. Arun Seshachalam

MD(Ped) D M(Oncology) G V N M Hospital Preventive Oncology, Community Orientation of Oncology

## **Dr. Vijayalakshmi** *MD(Ped) NIEPMED*



**Dr. Julius Xavier Scott**MBBS, DCH, MD, DNB, Fellowship in Pediatric Hemato Oncology
Senior Consultant – Paediatrician Gleneagles Hospital

**Areas of interest**Pediatric Hemato Oncology

# **Neuro-rehabilitation in the setting of Pediatric Oncology - A Special Focus**

Pediatric oncological therapy may impact the neurological potential or progress of the developing brain. Being aware of the possible issues that one needs to keep in mind, will aid in administering therapy.



### **SPECIAL SITUATIONS**

## Chairpersons

### Dr. Arun Seshachalam

MD(Ped) D M(Oncology) G V N M Hospital Preventive Oncology, Community Orientation of Oncology

## **Dr. Vijayalakshmi** *MD(Ped) NIEPMED*



**Dr. G.Nandhini**MD DNB (Pediatric Surgery)
Dr.Mehta's Hospital

Areas of interest

Pediatric Urology

Advanced Laparoscopic Surgery

# Bladder and Bowel Dysfunction in Children with Developmental Challenges

Early diagnosis and treatment of bladder and bowel dysfunction is critical to avoid secondary comorbidities. As a consequence, they can adversely impact children's kidney and bladder function, and psychosocial well-being. Gaining perspective on this issue, will sensitize therapists to design meaningful therapy.



#### **SPECIAL SITUATIONS**

## Chairpersons

#### Dr. Arun Seshachalam

MD(Ped) D M(Oncology) G V N M Hospital Preventive Oncology, Community Orientation of Oncology

## Dr. Vijayalakshmi

MD(Ped) NIEPMED



## Dr. Meenakshi Jandhyala

MD (Ped), Consultant Pediatrician and Neonatologist Senior Faculty DNB program at St. Isabel's Hospital

#### Areas of interest

Newborn care, high risk infants and early intervention

## Nutritional goals and challenges in paediatric rehabilitation

Rehab needs to be holistic to improve outcomes. Nutritional goals change and impact rehab program. Developmental therapists are too often confounded with this challenge. The speaker will educate the audience on these challenges and solutions.



#### **SPECIAL SITUATIONS**

## Chairpersons

#### Dr. Arun Seshachalam

MD(Ped) D M(Oncology) G V N M Hospital Preventive Oncology, Community Orientation of Oncology

## **Dr. Vijayalakshmi** *MD(Ped) NIEPMED*



**Dr. S.Subramanian M.D**Consultant Pediatrician, Neonatologist

#### **Areas of interest**

General Paediatrics, Neonatology, feeding and nutrition of young infants, Developmental Pediatrics. Healthcare management and planning Preventive healthcare.

### Role of Vaccines in rehabilitation

Rehabilitation is challenging and the goal is to optimize output for the client. When a rehabilitation program focuses on improving functioning, accelerating recovery and improving the general well-being, vaccines have a very important part in making this happen by preventing morbidity and by improving outcomes. Dr.Subramanian will put forward the role of vaccines in this context.



### **CEREBRAL PALSY**

## Chairpersons

### Dr. Thilothammal N

Retired H.O.D., Pediatric Neurologist, ICH

### Mr. Sundar Ganesh

Dean, Dept of Physiotherapy, Annamalai University



Ameetesh Narayan

Professor, Department of Physiotherapy, Manipal University

## **Management Approaches for spasticity – A Critical Analysis**

The aims of physiotherapy techniques used for the treatment of spasticity are to create sensorimotor recovery and gesture relearning, thereby resulting in an optimal independence in daily life activities. The speaker will give a critical review of the physiotherapy techniques in place.



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## Chairpersons

### Dr. Thilothammal N

Retired H.O.D., Pediatric Neurologist, ICH

#### Mr. Sundar Ganesh

Dean, Dept of Physiotherapy, Annamalai University



Mrs. Mohana Vidhya M.PT

Senior Physiotherapist, Nishta Centre

#### Areas of interest

- Manual therapy techniques such as Maitland and concept with evaluation and management.
- Motor Relearning approach in neurological rehabilitation for stroke.
- Neuro developmental technique and pediatric approaches.
- Early intervention assessment and management.
- Ante natal, post natal and Urinary incontinence retraining techniques.
- Industrial ergonomics and workstation modification.
- Clinical Research Documentation.

## The Floppy Infant-Physical therapy Strategies for management

Floppy baby syndrome include infants with benign congenital hypotonia who typically exhibit the condition at 6 to 12 months old, with delayed gross motor skills. Physiotherapy for floppy infants is aimed at stimulating normal movement, coordination and strength through use of play and functional activities. The speaker will elucidate these management techniques.



#### **CEREBRAL PALSY**

## Chairpersons

### Dr. Thilothammal N

Retired H.O.D., Pediatric Neurologist, ICH

#### Mr. Sundar Ganesh

Dean, Dept of Physiotherapy, Annamalai University



**Dr. Jayashree Bhat**Professor, Department of Audiology and Speech, Manipal University

With over 30 years of teaching experience, Dr. Jayashree Bhat has carved out a niche for herself in the field of Speech and Language Pathology. She teaches undergraduate and

postgraduate students and also acts as a clinical supervisor in the institution.

# Feeding and Swallowing Disorders in CP- Identification and Management

Children with cerebral palsy are prone to numerous difficulties due to the invasiveness of the disorder, and one such difficulty that surfaces in many children is the feeding and swallowing issue. The speaker will guide us on the identification and management of the issue.



#### **CEREBRAL PALSY**

## Chairpersons

## Dr. Thilothammal N

Retired H.O.D., Pediatric Neurologist, ICH

### Mr. Sundar Ganesh

Dean, Dept of Physiotherapy, Annamalai University



Ms. Ramya K M
Occupational Therapist, Nishta Centre

With a focus on occupational therapy, Ramya's research experiences concentrate on improving fine motor dexterity in children with various diagnosis using innovative techniques like play therapy and acquirec therapy. Her keen interest in learning and expanding her focus is highlighted in her training and experiences with various psychological therapy techniques, apart from occupational therapy. Her work also extends beyond individual cases. She has had experiences in working with the community as well as developing home training programs for families.

# Manual Ability Vs Manual Dexterity in Children with Cerebral Palsy

Manual ability and performance of dexterity tasks require both gross and fine hand motions and coordination. Cerebral Palsy impacts these functioning. The speaker will talk about these aspects.



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DAY 2

23 Sep, 2018



## **EPILEPSY AND NEURODEVELOPMENT**

## Chairpersons

**Dr. V.Lakshmi**Neonatologist Mehta's children's Hospital

**Dr. Bhuvaneshwari**Neurologist Kauvery Hospital



Dr. Dinesh Nayak MD DM(Neurology)

Director, Department of Nuerology, Head, Advanced Centre for Epilepsy at Gleneageles Global Health City

#### Areas of expertise

- Video-EEG monitoring
- Pre-surgical evaluation of medically refractory epilepsy
- Vagus Nerve Stimulation (VNS) and Intracranial EEG monitoring
- Management of complex epileptic seizures.

# A Plenary Discourse on the impact of epilepsy on the developing brain

Providing a setting for discussions, the speaker will walk us through the varied impact of epilepsy on the developing brain and its possible repercussions. Audience will thus appreciate, understand and keep in mind the neuro-developmental issues that arise.



#### **EPILEPSY AND NEURODEVELOPMENT**

## Chairpersons

**Dr. V.Lakshmi**Neonatologist Mehta's children's Hospital

**Dr. Bhuvaneshwari**Neurologist Kauvery Hospital



**Dr. Lakshminarayanan**MD DM (Neurology)
Pediatric Neurologist at Gleneagles Global Health City

#### Areas of Interest

- Epilepsy/fits/seizures
- Hereditary Metabolic Disorders
- Delayed developmental milestones
- Mental Retardation
- Behavior problems
- Autism
- ADHD

# Understanding Anti-epileptic drugs: through the lens of the Neurodevelopmental team.

Anti- epileptic drugs are the mainstay in epilepsy management, but not without their flipside. Judicious management of these drugs ensures better outcomes. Being aware of this will guide the developmental professional to weigh the path to progress.



#### **EPILEPSY AND NEURODEVELOPMENT**

## Chairpersons

**Dr. V.Lakshmi**Neonatologist Mehta's children's Hospital

**Dr. Bhuvaneshwari** *Neurologist Kauvery Hospital* 



**Dr. Ashwini Mohan**MD (Ped) IAP Postdoctoral fellow in Neurology,
Consultant Pediatric Neurologist Nishta Integrated Neuro Development Center

Dr. Ashwini has been working in the field of pediatric neurology for almost 10 years. Along with providing services as a consultant, she also constantly engages in research and presentations.

## **Developmental Therapy in a child with seizures**

Better management of children with seizures can be achieved if the comorbidities associated with the issue are understood. The speaker will talk about this aspect.



## **MOTOR SPEECH DISORDERS**

## Chairpersons

## **Professor Roopa Nagarajan**

Ex H.O.D. SLP at SRM

**Dr. Balakumar** *Ex H.O.D. MMC* 



## Ms. Devi Jessie Mary

H.O.D. Speech and Language Pathology Department, Nishta Bachelor in Audiology and Speech Language Pathology (B.A.S.L.P.) Master of Business Administration (M.B.A) in Marketing Leadership Fellow, Asia Pacific Leadership Program, East-West Center. Consultant – Speech Language Pathologist at Swapna Therapy Centre

#### Areas of interest

Early identification and intervention for ND challenged.

# Dysarthria vs/& childhood Apraxia of Speech: Diagnostic Markers and Management Strategies

Diagnostic evaluation plays a crucial role in designing a management program for the above conditions. The speaker will present evidence from frontier science with regard to this.



#### **VISION IMPAIRMENT**

## Chairpersons

#### Dr. Pravin Krishna

Pediatric Ophthalmologist Radhadhri Nethralya

#### Dr. Swarna Arun

Pediatric Ophthalmologist, Trichy



## Dr. H.Jameel Rizwana

Assistant Professor of Optometry,
Head- Binocular Vision and Vision Therapy Clinic,
Course Director- Fellowship in Binocular Vision,
Sankara Nethralaya, Unit of Medical Research Foundation, Chennai, India

#### Areas of interest

Prevalence and treatment of various binocular anomalies in the pediatric population.

# Vision enhancement in cortical visual impairment - An evidence based approach

- To discuss the current definition for cortical visual impairment
- To understand the diverse signs and symptoms pertaining to the visual system
- To understand the vision assessment protocol and the guidelines for referral to an eye care practitioner
- To discuss the approach to vision rehabilitation in this special population
- To integrate the discussion with an evidence based approach



### **VISION IMPAIRMENT**

## Chairpersons

#### Dr. Pravin Krishna

Pediatric Ophthalmologist Radhadhri Nethralya

#### Dr. Swarna Arun

Pediatric Ophthalmologist, Trichy



Ms. Antoinette Pavithra

Speech Language Pathologist, Nishta Centre

#### Areas of interest

- Training deaf blind children
- Hearing aids, Cochlear Implantation
- Auditory training, diagnosing and providing early intervention for Speech language disorders
- Special Education

## **Providing Speech therapy to Children with Visual Impairment**

This section deals with one of the most complex forms of providing efficient and effective interventions for children with visual impairment in isolation or as a comorbid condition. The speaker is aiming for maximum participation from the audience in order to discuss the challenges as well as the 'eureka-moment' yielding practical strategies of working with visually impaired children. The discussions will stimulate the clinicians towards descriptive adaptations and accommodations to use when assessing or treating children with visual impairments and moving towards community integration.



#### VISION IMPAIRMENT

## Chairpersons

## Dr. Pravin Krishna

Pediatric Ophthalmologist Radhadhri Nethralya

#### Dr. Swarna Arun

Pediatric Ophthalmologist, Trichy



Ms. Ida Mary Siromani
Occupational Therapist, Nishta Centre

Having recently obtained a fellowship with the All India Occupational Therapists Association, Ms. Ida Mary added this to 17 years of on field experience. During the course of her work, she has not only offered services as an occupational therapist, but was also mentoring and teaching students. She has worked with children in clinics, hospitals and schools, aside from a neurodevelopmental centre. Apart from having worked with different clinical populations, her experiences in working with a different culture in Kuwait, Ms. Ida brings an interesting mix of curiosity and wisdom to her work space.

#### Areas of interest

Rehabilitation, Neuro development issues.

# Sensory Issues in a Child with Visual Impairment - Identification and Management

The speaker will enumerate the identification techniques and guide on designing an effective intervention to address the sensory issues in a child with visual impairment.



#### FINE MOTOR AND COORDINATION

## Chairpersons

Dr. N.Mahesh

Pediatric Neurologist Apollo Children's Hospital and Mehta's Children's Hospital

## Ms. S.Deepa

Principal, College of Occupational Therapy, NIEPMD



Dr. A.Sheba Swarnarajam

Ph.D. (Rehab.Sc.), MOT (Paed). C/ADOS., C/SIPT., MSc(Psy)., Director - Madurai Child Development Centre, Madurai

Dr. Sheba has spent her time in equipping herself with the ability to help the community, along with ensuring that she does the same for others. She has facilitated and supervised students in the field of occupation therapy, both in India and abroad. She has undergone specific training in Autism Spectrum Disorder as well as Sensory Integration. She has also previously served as the head of the counselling and special education department at Mount Carmel School, Delhi. Dr. Sheba is also the Founding Director of the Madurai Child Development Centre. With 18 years of experience and awards to her name, she continues to teach and even learn further.

## **Developmental Coordination Disorder in children**

Frequently described as "clumsy" or "awkward" by their parents and teachers, children with DCD have difficulty mastering simple motor activities. Early intervention will help the children cope up with the challenges. The speaker will sensitize us on the said issue.



#### Sesson Title

#### **FAMILY SUPPORT**

#### Chairpersons

#### Dr. Shanthi Nambi

Ex-Director of Institute of Mental Health

#### Dr. Sujaritha Magdalin

M.A., M.Phil, Ph.D., H.O.D. Psychology Department, Presidency College



Mr. Karthikeyan

Dept of Rehabilitation Psychology, NIEPMED

#### Areas of Interest

- Rehabilitation of Persons with Mental Illness and other Disabilities
- Mental Health concerns in Persons with Disabilities
- Adolescent issues in Persons with Intellectual Disabilities
- Early Intervention in Autism Spectrum Disorders
- Parental Programs & Family Therapies

### How to facilitate family acceptance related to a child's disability and its consequences

Rehabilitation consumes a sustained and committed time and needs an adequate family acceptance and support. The challenge lies in facilitating the family's understanding, acceptance of the challenges. Addressing this, the speaker will talk of strategies to work with families.



#### Sesson Title

#### **TECHNOLOGY AND REHABILITATION**

#### Chairperson

Dr. R.Arunachalam

M.P.T(Neuro), PhD, Principal and H.O.D., College of Physiotherapy, Madhav University, Rajasthan



Ms. Hemachithra
Lecturer, Annamalai University

Ms. Hemachithra has 18 years of teaching and clinical experience to her credit. She has also been trained intensively in the fields of neurodevelopmental therapy and pediatric rehabilitation. She also engages with students in research, as she has guided students, both undergraduates and postgraduates during their research projects. She has been a member of the prestigious Indian Association of Physiotherapy since 2001. Along with the educational qualifications and training she has undergone in the field of physiotherapy, she has also attained a Master's degree in Psychology.

#### **Powered Mobility in Rehabilitation**

Powered mobility includes assistive and adaptive rehabilitation devices for disabled people and promotes greater independence by empowering them to perform Activities of Daily Living (ADL). The use of powered mobility devices has been associated with increased mobility, decreased pain and discomfort, improved participation in daily activities and health related quality of life. The talk will engage us on these aspects along with its pros and cons.



#### **Sesson Title**

#### **TECHNOLOGY AND REHABILITATION**

#### Chairperson

**Dr. R.Arunachalam**M.P.T(Neuro), PhD,
Principal and H.O.D., College of Physiotherapy, Madhav University, Rajasthan



Mr. G.V.Subbarayulu

Mr. G V Subbarayulu received a BPT degree in physiotherapy from NTR University of Health Sciences, NDT from NDTA USA, California, He has also received training in theratogs application and is certified in general movements assessment in Infants. He specialises in administering functional electrical stimulation. He has given lectures in some of the Physiotherapy colleges in topics like Pediatric Intervention. Currently he has his own private practice with state of the art equipment in Hyderabad.

#### **Robotics and Virtual Reality**

Largely utilised abroad, the trending science has a potential for application and improving outcomes in rehab. Mr. Subbarayulu will share his expertise and experience on the same.





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### Launching Physiotherapy service in Klinician

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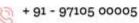








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## EARLY INTERVENTION AND INTEGRATED REHABILITATION ALONG WITH PALLIATIVE CARE PHYSICIAN IN PREVIOUSLY WELL CHILDREN DIAGNOSED WITH LIFE LIMITING DISEASES\*

#### Dr. Sasikala Devi.S., Dr. Sivaramakrishnan.G. Dr. Arasar Seeralar A.T.

Institute of Child Health and Research Centre (A unit of Madras Medical College), Egmore & DEAN Foundation

#### **Objectives:**

Early intervention in patients with life limiting disability condition\* at the time of diagnosis by Integrated care\*\* to limit the physical disability, cognitive impairments, emotional impairment (and improving their psychological behavior) to overcome their denial for palliative care and rehabilitation initially itself and to accept the rehabilitation throughout the course.\*Counselling:Counsel the parents and the child about their disease pathology, course and prognosis.\*Nutrition:Nutrition enhances positive mood, immunity, Biotome and better rapport with the child.\*Pain management:\*Dance movement therapy (DMT) and Exercises:DMT improves associated body pain.DMT helps enhance production of a neurotransmitter called endorphin, which decreases the trauma caused by the disease. \*Social and environmental interaction using mobile phones, toys and activities. \*Prophylactic, Developmental care.

#### Methods:

Inclusion criteria: Well children diagnosed with Cancers, Blood disorders, Neuromusculoskeletal disorders, etc. And congenital diseases. Exclusion Criteria: Acute infections and diseases that can be cured without disability. These patients had earlier intervention of palliative integrated care and Rehabilitation therapies mentioned above.

#### **Results:**

These patients had improved quality of life, on comparison with the others treated earlier. Also patients felt more connected and had better acceptance to their primary care also.

#### **Conclusion:**

We were able to limit their disability and recovery time which helped them in leading a near normal life. It helps overcome the denial by patients as they are interested initially only in cure and not in palliation and rehabilitation. \*Life limiting disability — Blood cancers, neuromusculoskeletal disorders, congenital diseases, etc.\*\*Integrated care includes Primary physician, Palliative physician, Neurologist, Psychiatrist, Psychologist, Physiotherapist, Social workers, Caregivers.



### EFFECT OF TREADMILL TRAINING IN REHABILITATION OF CHILDREN WITH CEREBRAL PALSY: A REVIEW

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#### **Objective:**

The objective was to explore the effect of Treadmill training in rehabilitation of children with Cerebral Palsy.

#### Methods:

An extensive search was conducted in PubMed and Google Scholar with the key words; Treadmill, Treadmill Training, Rehabilitation, Cerebral Palsy, Children, Paediatric. The search was limited to human clinical trials published within the last 5 years. Out of 49 articles retrieved, 21 studies met the inclusion criteria. Being a retrospective review of published articles, ethical clearance for human and animal studies is not indicated.

#### **Results:**

Eleven (11) of the 21 studies were Randomized Controlled Trials (RCTs),3 were randomized cross over studies,1 was Quasi Randomized Controlled Trial, 1 was Cohort study,1 was case control study,1 was Case study, I Comparative study,1was same subjects repeated measure study and 1 was exploratory study. Overall Treadmill Training seems to be effective to improve gait, dynamic balance, coordination and walking capacity among children with cerebral palsy. Combining Treadmill training with Transcranial Anodal Stimulation or Virtual Reality or Body weight Suspension enhances the clinical efficacy. Robotic assisted. Treadmill Training and Antigravity Treadmill Training is showing promising results.

#### **Conclusions:**

Treadmill Training is an effective rehabilitation aid for children with Cerebral Palsy. Combining Treadmill training with either Transcranial Anodal Stimulation or Virtual Reality or Body weight Suspension provide significant clinical improvement. Hence treadmill training should be included as an integral part of Physiotherapy management of children with Cerebral Palsy. More rigorous and high-quality research works with large sample size are recommended.

Key words: Cerebral Palsy, Treadmill, Training, Rehabilitation, Children



## CLINICAL RELEVANCE IN ASSESSING FEEDING AND SWALLOWING DISORDERS IN PEDIATRIC POPULATION - CASE SERIES

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#### **Objectives:**

To identify specific considerations in addressing children with feeding and swallowing Disorders.

**Methods:** Thirteen children aged between 2- 13 years of age were identified with diverse neurogenic conditions. This study focused on delineating feeding and swallowing disorders based on comprehensive assessment.

#### **Results:**

Two of seven children were observed to have feeding disorders and two other children were observed to have swallowing disorder. All the other children were observed to have both feeding as well as swallowing disorder. Lack of parent awareness on mastery over self-feeding skills was perceived.

#### **Conclusion:**

This study suggested that parents had no prior knowledge of feeding issues as a separate entity. Hence, educating parents on feeding and swallowing disorders is essential as it becomes an integral part in the context of family. Also, assessing feeding and swallowing disorders require distinct operational terms.

#### **Acknowledgement:**

We sincerely thank Department of Audiology and Speech Language Pathology, SRM Medical College and Research Centre for the support. We acknowledge the parents and children who had consented to be a part of the study.



### ASSESSMENT OF SCHOOL READINESS INSTRUMENT ON CHILDREN WITH ASD

#### R.Kaviya<sup>\*</sup>[BOT],

Prof. Sujata Missal\*\* [M.Sc. OT, P.G.D.R (OT)], KMCHCOT, Coimbatore.

#### **Background:**

School readiness involves ready children, ready schools, and ready communities. It refers to the preparedness of children to learn what school wants them to learn. Characteristics of ASD (e.g., social communication deficits, restricted interests) may place children with ASD at a distinct disadvantage for naturally developing some facets of school readiness skills.

#### **Objectives:**

The aim of the study was to 1.To find out the age range for use of the SRI on children with ASD. 2.To find out lack of performance in skill areas on the School readiness instrument. Methodology: Research Design: The research design is cross-sectional survey study.

#### Sampling technique:

Convenient sampling method was used in this study. Participants: The study included 80 children with ASD of both gender.

#### **Tools Used:**

School Readiness Instrument (SRI). This was used in children with ASD for finding out their school readiness.

#### **Procedure:**

The study was done on 80 children diagnosed with ASD. SRI was administered on these children and total scores was analyzed to find out the lack performance in of skill areas.

#### **Result:**

The performance of the children with ASD (26%) was of a low range ((x)  $10.4\pm 11.7$ ) The children between 6-10 years and above 17 years, had a better performance on SRI than the other age groups. The score distribution is positively skewed with many children scoring 0 and majority of children (60%) scored in the lower score ranges between 1-10. The highest mean score of 2.33 was found in "following instruction" (91.3) and the lowest mean score of 0.20 was found in the task "comparison of numbers" (10%).

#### **Conclusion:**

The study concludes that children with ASD when assessed on the School Readiness Inventory lacked school readiness skills mostly in areas of pre-literacy, pre-number and cognitive abilities.

Keywords: ASD, School readiness, Performance areas, School Readiness Instrument.



### HEARING SCREENING OF NEWBORNS IN TERTIARY LEVEL III NEONATAL UNIT IN MEDICAL COLLEGE HOSPITAL

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**Introduction:** Universal Newborn hearing screening is an essential part of newborn care. Upto 42% of profoundly hearing-impaired newborns may be missed using only risk-based screening. Known risk factors for hearing loss include genetic abnormalities, cytomegalovirus infections, hyperbilirubinemia, meningitis, asphyxia and premature infants. Screening modalities include Oto acoustic emission (OAE) and Automated brainstem response (ABR). OAE alone is not a sufficient tool in high risk infants. Identification and intervention for hearing impaired should occur before 6 months of age. This helps in improvement of language and communication skills. Based on these facts, our aim is to estimate hearing loss in newborns by screening methods.

**Materials and Methods:** Hearing screening by otoacoustic emission at 3rd to 5th day of life or as soon as baby is hemodynamically stable after cleaning the ears by audiologist. Risk factors in the baby and mother including sex, birth weight, APGAR were noted with antenatal complications were noted in excel sheet. The babies noted to have a "fail" in first OAE were subjected to second OAE is performed at time of immunization (at 6 weeks.) If second OAE also gives a "fail," baby is referred for BERA.

Study design: Prospective descriptive study

**Study setting:** NICU and postnatal ward in Shri Sathya Sai Medical College and Research Institute, Kanchipuram.

**Study Population:** 300 newborn babies born in the institute. 250 – Universal screening, 50 – at risk approach. Results were tabulated, and statistical analysis done.

**Observation and Results:** Of the 300 age varies from 3-10 days with mean of 6.7 days. 142 were male and 158 were female. 88 born to primiparous mothers. 212 babies were born to multiparous mothers. 289 babies had birth weight >2.5 kg. 11 babies had birth weight <2.5 kg (low birth weight). 50 neonates were admitted in NICU for: - observation – 10, pathological jaundice – 8, moderate asphyxia – 9, not taking feeds – 8, respiratory distress – 15. 13 babies had a "fail" in first OAE. Of the 13, 9 had birth weight more than 2.5 kg; 4 had birth weight less than 2.5 kg. 1 baby was delivered via forceps delivery; 3 was delivered via LSCS; 9 was delivered via labour naturalis. Of the 13 babies, 11 were from universal screening (250 babies) and 2 were from the risk-based screening (50 babies). Second OAE done at immunization (6 weeks): 1 baby had "fail" and was done ABR. ABR is abnormal and is on follow up.

**Limitations of the study:** Low sample size and single centre study. Conclusion: Babies with risk factors should be screened not only at birth but throughout childhood every 6 months until 3 years of age for the risk of progressive hearing loss. Our study demonstrates that risk-based screening would have missed 11 babies who did not have any risk factors (Non NICU babies).

Keywords: Hearing screening, Newborns at risk



## EVALUATION OF A TRAINING PROGRAM FOR PARENTS ON PROVIDING SPEECH-LANGUAGE STIMULATION FOR THEIR CHILDREN WITH LANGUAGE DELAY

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**Dr. Lakshmi Venkatesh** (Associate Professor, Department of Speech, Language and Hearing Sciences, Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai, Tamil Nadu)

#### **Objective:**

The objective of the study was to assess the effects of a short parent-training program for improving parent's language input to their children with language delay.

#### Method:

Ten parents of children in age range of 12- 24 months that demonstrated a delay in language skills alone or a gross developmental delay participated in the study. The parents underwent a short training program focusing on speech-language development, play development and speech-language stimulation strategies. The effect of the training program on parent's language behavior was evaluated through observations of parent-child interaction at baseline, six- and 10-weeks, and post-training. Nine-parent-child dyads completed the study until 10 weeks. A 20-minute video of parent-child interaction was coded for different functions served by verbalizations by parents and their non-verbal affective behaviors.

#### **Result:**

Parent's verbalizations increased from baseline to the two follow-up sessions. Proportion of comments, suggestions and reflections on child's productions increased concurrently with a decrease in the use of direct commands and questions from baseline to post-training at 10-weeks. Parents reported using the training manual regularly during training sessions and indicated and felt that they were 'talking more and better' with their children. Changes in child's communication skills were also reported.

#### **Conclusion:**

A short training program for parents supported by a manual focusing on developmentally appropriate play and methods of speech-language stimulation resulted in increased verbal interaction and changes in language input to children. Further studies are needed to evaluate the effect of parent training on outcomes related to parent and child behaviors and contingency between parent-child behaviors.

**Note:** This research was approved by the Institutional Ethics Committee and has adhered to the ICMR ethical standards.



## FINE MOTOR SKILLS, MATH SKILLS IN CHILDREN WITH LEARNING DISABILITY – PILOT STUDY

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Prof. Sugi S. [MOT, (Paediatrics)],

Department of Occupational Therapy, KMCH, Coimbatore, Tamil Nadu, India.

#### Aim:

To explore the effectiveness of stone play game for children with learning disability.

#### **Objectives:**

To determine the effectiveness of stone play game in improving fine motor skills, mathematical skills.

#### Method:

Two group pre- post experimental study was conducted on 16 children diagnosed with LD, 8 in both experimental and control group respectively. Pre test scores was taken for both the groups using the scales IHMS, BANUCA and Purdue Peg Board test. Experimental group was provided with stone play game for 3 weeks, 21 sessions for 5- 6 days which comprises pallanguzhi game for 15 mins and five stones game for 15mins. Control group received conventional occupational therapy. Then post test scores were taken for both the groups. RESULT: Within group analysis revealed that there was significant difference in left hand, both hand and in assembly performance of Purdue Peg Board (P=.005, .030, .036) respectively. Post scores of experimental and control groups of NIMHANS SLD Index showed significant difference in mathematical components such as addition, subtraction, multiplication and division. BANUCA showed a significant difference in calculation and total score (P=.014, .035).

#### **Conclusion:**

The study concludes that the stone play game is effective for children with LD in improving their cognitive skills, math skills and fine motor skills.

Keywords: Stone play game, children with LD.



## RELATIONSHIP BETWEEN SENSORY PROCESSING AND SLEEP QUALITY AMONG CHILDREN WITH SPD AND TYPICALLY DEVELOPING CHILDREN: A COMPARATIVE STUDY

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#### Prof. Sugi S. [MOT, (Paediatrics)]

Department of Occupational Therapy, KMCH, Coimbatore, Tamil Nadu, India.

#### Aim:

To determine the relationship Between Sensory Processing and Sleep Quality among Children with SPD and typically developing children.

#### **Objective:**

To analyses sensory processing patterns and determine the prevalence of sleep disturbances in both the groups. To compare sleep quality and to determine the relationship between various sensory processing patterns and their impact on sleep disturbance in both the groups.

#### Method:

Parents of 35 children with sensory processing disorders and 35 typically developing children were interviewed using the Sensory Profile 2, The Children's Sleep habit Questionnaire (CSHQ) and The Family Inventory of Sleep Habits (FISH).

#### **Result:**

Statistical analysis was performed and the odds ratio and Pearson correlation were determined. Sleep quality significantly correlated with sensory-processing patterns characterized by sensory avoidance, in the typically developing group and sensory seeking in the SPD group with higher than typical score.

#### **Conclusion:**

Significant correlations were seen across the domains of the sensory processing and sleep habits Questionnaire. Children with Sensory Processing Disorders are Eight times more likely to have sleep disorders, in comparison to typically developing children Hence Children with sensory processing disorders should be screened for sleep disturbances in regular practice.

Keywords: Sensory Processing, Sleep Quality.



## EFFECTIVENESS OF CUSTOM MADE MEDIAL ARCH AND MEDIAL WEDGE FOR FLAT FOOT IN CHILDREN WITH DELAY DEVELOPMENTAL DISORDERS

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**Background:** Occupational therapists have been concerned with the delay development in children with flat foot. Concern about a child's at foot posture is common reason for frequent clinical consultation for an array of health care of medical professionals. Recently developed paediatric flatfoot clinical pathway has provided an evidence-based approach to diagnosis and management. Flatfoot may exist as an isolated pathology or as part of a larger clinical entity. These entities include generalized ligamentous laxity, neurologic and muscular abnormalities, genetic conditions, collagen disorders and structural disorder. Flat foot is found to be associated with pronated foot. Custom made medial arch and medial wedge helps to improve correct foot position and walking pattern. Occupational therapists mainly use custom made medial arch and medial wedge to reduce Flat foot in children with delay developmental disorders.

**Objectives:** The aim of the study was to evaluate the extent of correction of flat foot after medial wedge and custom made medial arch support is given in footwear of children with flat foot.

**Methodology:** Research Design- The research design is experimental study. Sampling technique-Convenient sampling method was used in this study.

Participants: The study included 18 children with delay developmental disorders of both genders.

**Tools Used:** Chippaux smirak index and navicular drop test.

**Procedure:** An experimental pre-post test design was adopted for the study in which 18 children with flatfoot were recruited out of which 9 children in the experimental group underwent custom made medial arch with medial wedge and 9 children in the control group were provided with sandals. The study duration was 4 weeks wherein the tests were conducted pretest, posttest. The scales administered were Chippaux Smirak Index and Navicular Drop test.

**Result:** The calculations were done using the Wilcoxon – Signed Rank Test & Mann Whitney Test. Experimental group showed significant (p<0.05) in reduction of CSI and NDT. No significant difference was found between groups (p>0.05). However, the reduction of CSI and navicular drop test was slightly more in experimental group based on the effect size of CSI right foot  $\eta p2=(0.89,)$  CSI left foot  $\eta p2=(0.90)$ , and NDT right foot  $\eta p2=(0.89,)$  NDT left foot  $\eta p2=(0.84)$ . when compared with control group CSI right foot  $\eta p2=(0.48)$ , CSI left foot  $\eta p2=(0.54)$ , NDT right foot  $\eta p2=(0.19)$ , NDT left foot  $\eta p2=(0.12)$ . A 4 week intervention with medial arch and medial wedge did elicit a statistically significant change in CSI of right foot ((p=.007, Z=-2.677) left foot (p=.008, Z=-2.670), navicular drop test the right foot (p=.007, Z=-2.714) the left foot (p=0.011).

**Conclusion:** The study concluded that custom made medial arch and medial wedge were found to be effective in preschool children with flatfoot aged 3-6 years Keywords: Flatfoot, custom made medial arch support, medial wedge



### AWARENESS OF AUTISM SPECTRUM DISORDER (ASD) AMONG NON MEDICAL STUDENTS— A SURVEY

#### Sunil Kumar J, Elakiya Elango

MERF Institute Of Speech And Hearing (P).Ltd

#### Indroduction:

Autism Spectrum Disorder is a Neuro developmental disorder that affects communication and behaviour. Incidence extrapolations of India for Autism: 11,914 per year, 250 per month, 57 per week, 8 per day, 1.4 per hour. Prevalence rate: 1 in 500 or 0.2% or more than 2,160,000 people in India. Examine the awareness of ASD in arts and engineering students which would help in early recognition and improved support of affected families. Insufficient knowledge about ASD and inappropriate attitudes towards mental health services use may impede the efforts of early identification and intervention. Awareness is not to help raise funds to cure autism, rather the awareness involves in early diagnosis. Early diagnosis allows children to enroll in speech therapy or other programs that will help improve their way of life.

#### Aim:

To assess the awareness of Autism Spectrum Disorder among the Non-Medical students.

#### Method:

A cross-sectional study involving 100 students pursuing arts and engineering (both undergraduate and post graduates) in government and private colleges were selected for the study. Survey was conducted, and data related to awareness of ASD was collected using a self-administered questionnaire.

#### **Result:**

Descriptive statistics was carried out. Out of the total 100 students, 34.5% of the students were found to be aware about ASD and 65.5% of the students were not aware about it. 26.6% among the subjects were females and 7.2 % were males who were found to have awareness about ASD.

#### **Conclusion:**

Awareness of ASD needs improvement. Health education and promotion are needed to improve people's knowledge about ASD and available mental health services. Build a society more empathetic and responsible towards ASD patients. To conduct camping to raise autism awareness among the students.



#### NEUROLOGICAL OUTCOME IN CHILDREN WITH DENGUE ENCEPHALITIS AFTER ONE YEAR

#### Abinaya Srinivasan

Department of Pediatrics, G. Kuppuswamy Naidu Memorial Hospital

#### Objective:

To analyze the neurological outcome in children with dengue encephalitis.

#### Methods:

Retrospective study on children admitted with dengue encephalitis from July 2017 to June 2018.

#### **Results:**

9 children presented with sero-positive dengue encephalitis. Neuro-imaging was normal for 5 children. Rest of them showed features like cerebral edema, necrotizing encephalitis, PRES and thalamic hyper intensity. All of them showed good neurological outcome at the end of 1 year. 7 years girl presented on day 2 of illness with encephalopathy and posturing. CSF confirmed dengue encephalitis. MRI showed bilateral hyperintensities in thalamus, cortex, basal ganglia and cerebellum suggestive of necrotizing encephalitis. She was ventilated for seizures and encephalopathy. She required 14 days of mechanical ventilation and 6 antiepileptics (including ketamine infusion, phenobarbitone and levitiracetam) for refractory status epilepticus. She developed severe spasticity of right side and cortical blindness. She was irritable with poor oro-motor co-ordination while she was weaned off ventilation. Neuroprotective measures were followed right from the beginning. She was started on early physiotherapy soon after cessation of status epilepticus. Enteral feeds were continued throughout ICU stay. Visual and oro-motor stimulation were given. She was discharged on semi-solid oral feeds. One year after discharge, her clinical examination showed no neurological deficits. Her vision is 6/12 with concomitant squint on the left. IQ assessment was normal.

#### **Conclusion:**

Due to severity of the disease and multi system involvement, long term neuro-outcome in severe dengue is challenging. Dengue encephalitis has been reported to happen in 0.5–6.2% patients with dengue. In our study it was 0.03%. Follow up of patients after 1 year with encephalitis showed almost no neurological deficits. Although neurological manifestations are like Japanese encephalitis, unlike the former, neurological outcomes are favorable and rewarding. Funding – nil. Ethical clearance was obtained.



## DEVELOPMENT OF EXECUTIVE FUNCTIONING AND SOCIAL COGNITION IN TAMIL SPEAKING CHILDREN FROM 4 TO 10 YEARS OF AGE.

#### Prianka Evangeline Felix, Jasmine Lydia S.

MERF Institute of Speech and Hearing (P) Ltd., Chennai

#### **Objective:**

The purpose of the current cross sectional study was to examine the developmental progression of Executive Functioning (EF) and Social Cognition (SC) skills in Tamil speaking children between 4 to 9 of age.

#### Methods:

The study had received the ethical clearance for human and animal studies approved by the institutional ethics committee. Tests of Executive functioning (Deductive reasoning, causal reasoning, identification by attributes, semantic fluency, letter fluency, and inhibitory control) and Social Cognition (theory of mind) were chosen for the study. The tests were administered on 106 typically developing children between the ages of 4 to 10 years who were divided into six age groups (interval of 10).

#### **Results:**

The findings of the tests of EF and SC obtained for both male and female children across age revealed a steady increase in mean scores with advancement in age for all the tests of EF. Thus, reflects the development of EF and SC skills along with the overall maturation. On comparison across gender, better performance was observed for female children when compared to males for all the tests of EF but this difference was not significant for SC.

#### **Conclusion:**

Within the domains of Communication and Cognition, EF and SC have been two among many other minimally explored areas in paediatric population. Evidence of impairment in EF and SC has been cited in literature in many speech and language disorders. This study puts forth the developmental and gender-specific trends in the acquisition of EF and SC in Tamil speaking children. This information is potential towards the development of specific test tools and intervention protocols.



## COMPARISON OF ATTENTION AND MEMORY SKILLS IN TYPICALLY DEVELOPING CHILDREN AND CHILDREN WITH INTELLECTUAL DISABILITY

#### Prianka Evangeline Felix, Jasmine Lydia S.

MERF Institute of Speech and Hearing (P) Ltd., Chennai

#### Aim:

The aim of the study was to compare Attention and Memory skills in Tamil speaking typically developing children (TDC) and Children with Intellectual Disability (CID).

#### Methods:

A total of 120 participants (102 TDC and 18 CID) between 4 to 9 years of age participated in the study. Two tasks (Auditory word discrimination and sound count test) to test attention and three tasks (Phonological working memory, word recall, sentence recall) to test memory were chosen from extensive review of literature. The tests were administered, and data obtained was subjected for statistical analysis.

#### **Results:**

The total score of attention and memory was noticeably higher for TDC (M = 12.35) than CID (M = 7.56). Individual test scores under each domain were also significantly higher in both attention and memory for TDC and CID. Within the CID group, high inter-subject variation was present in the scores from the minimum to near maximum.

#### **Conclusion:**

Attention and memory have been well explored areas in paediatric population and evidence of impairment in attention and memory has been cited throughout literature in many speech and language disorders. This study puts forth valuable data in differentiating TDC and CID across various linguistically based tests (in the Tamil language) of attention and memory. This information is potential towards the development of specific test tools and intervention protocols consistent with a holistic approach to speech and language assessment and therapy in Tamil.



## TO EVALUATE THE ROLE OF MRI IN PROGNOSTICATING NEUROLOGICAL OUTCOME AT 18 MONTHS OF AGE IN CASES OF NEONATAL SEIZURE

#### Anil Ram R, Krishna Dathan and Lakhshmi V.

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#### Introduction:

Neonatal seizure is one of the common causes of neonatal fatality. The long-term outcomes of neonatal seizure depends on the etiology of seizure. The adverse outcomes include impaired mental and motor development, hearing loss, recurrent seizures and cerebral palsy. MRI is increasingly becoming the gold standard in diagnosis of etiology of neonatal seizure as it involves no radiation and can be performed during a neonate's physiological sleep.

#### Aim:

To evaluate the role of MRI in neonatal seizure in prognosticating neurological outcomes at 18 months of age.

#### Methods:

A total of 43 patients were included in the study who underwent MRI of brain. A clinical follow up was done at the end of 18 months.

#### **Results:**

The sensitivity of MRI in prognosticating clinical outcome was 90.47 % and specificity was 63.63 % while PPV and NPV was 70.37 % and 87.5 % respectively.

#### **Conclusions:**

MRI is a useful modality to assess early changes in neonatal seizures and it can prognosticate clinical outcome.



### EVALUATION STRATEGIES IN CHILDREN WITH SPASTIC DIPLEGIA: A NARRATIVE REVIEW

#### Indira DB Naidu Boddapati, Prof. Rao Bhamini Krishna

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#### **Keywords:**

Spastic diplegia, lower extremity, foot, evaluation, handheld dynamometry, rotational profile.

#### Abstract:

Background & Purpose: Children with spastic diplegia are prone to develop lower limb musculoskeletal problems because of the underlying neurologic insult which may in turn result in loss of selective motor control. Increase in underlying muscle tone, and muscle imbalance, leading to abnormal deforming forces acting on the immature skeleton. Clinicians and researchers need baseline measures that are reliable, as intervention effects cannot be accurately identified without consistent measures. Hence, close surveillance and evaluation are key when addressing the underlying deformity and improving and maintaining overall function.

#### **Objective:**

To determine comprehensive baseline assessment methods for lower extremities favorable for spastic diplegic populations of GMFCS level I-III.

#### Design:

A review article.

#### Methodology:

A literature search was conducted using keywords and of the PubMed/Medline, Science Direct, Scopus, Web of Science databases. Articles which mentioned the evaluation strategy in the title or in abstract were selected.

#### **Results:**

A total of sixteen articles obtained, it was seen that lower extremity evaluation in spastic diplegics included handheld dynamometry for muscle strength assessment, spasticity measurement, rotational profile, foot posture index and its functional consequences.

#### **Conclusion:**

The collated information can guide clinicians and researchers in need of baseline measures that are reliable.



## ROLE OF NEURODEVELOPMENTAL TREATMENT COMBINED WITH OTHER TREATMENT TECHNIQUES ON NEUROMOTOR OUTCOME AND FUNCTIONS IN PAEDIATRIC POPULATION: A NARRATIVE REVIEW

#### **Arya Salgaonkar**

Post Graduate

#### **Prof. Bhamini Krishna**

Department of Physiotherapy, SOAHS, MAHE, Manipal.

#### **Objective:**

To understand the role of Neurodevelopmental treatment (NDT) combined with other treatment techniques on neuromotor outcome and functions in pediatric population.

#### Methods:

A search was conducted in PubMed, Cochrane and EBSCO databases using the key words "neurodevelopmental therapy, neurodevelopmental treatment, paediatrics, disability, gait, cerebral palsy, children. Total of 1293315 articles were retrieved. The search was limited to year 2008 to 2018. Boolean operators used "AND" and "OR". A total of 5 articles from 19 (4 RCTs and 1 Qualitative study) were included in the study after excluding the duplicates and screening the abstracts.

#### **Results:**

Neurodevelopmental therapy plays an important role in the treatment of children with neuromotor disability. Studies suggest marked improvement in the gross motor changes on GMFM scale which has an indirect effect on the functional activities. Intensity and frequency of NDT sessions (conventional and intense) made a difference in maintenance of the achieved changes. Inculcating technology (Wi games) increased the adherence to the therapy. Parent's perspectives about the child's treatment, knowledge about the condition and expectations from the child plays a vital role in the goal attainment for the therapist.

#### **Conclusions:**

NDT had promising changes over the components of development like strength, spasticity, upper extremity function and task oriented activities. Intensity and frequency of treatment sessions were focused in all the studies. None of the studies mentioned about precise NDT exercises or protocol given in form of treatment. Qualitative study threw light on the parents' perspectives on type of treatment, efficiency of therapist and child's improvements that influenced the overall progression.



#### ONE SIZE NEVER FITS ALL

#### Bhairavi Prasanna V.

Senior Consultant- Speech Language Pathologist, Swapna Therapy Center, Chennai.

#### Objective of the study:

To compare various speech and language intervention models provided to clients over the last 3 years in the clinical setup.

#### Method:

A collection of 50 cases seen over the last 3 years in private practice of the clinician were purposively selected and retrospective case study design has been used to analyze the underlying principle of intervention ranging from (Policy to practice decision) resource allocation, alternate service delivery models, use of books as literacy aids, empowerment of care givers, working with parents who have diminished skills due to disability to name a few.

#### Results:

The results have been summarized into various categories based on the Quality of Life Outcome(QOL) measures, Pre and post language /speech tests, Focused group Discussions(FGD) of families, Exit interviews and Clinical observations leading to innovative practices.

#### Discussion:

Speech Language Pathologists across the world are constantly innovating themselves to render their intervention service to an ever growing need. It becomes pertinent for a practicing clinician in a developing multi lingual, multi-cultural country to seek gentle balance between the quantity and quality using the best practices and various service delivery models. The result from the study discusses the clinic decisions and outcomes using evidence based models and how "one size fits all" may not solve issues. The need to constantly innovate and use indigenous service delivery models are projected through various case studies. The role of qualitative data points observed in clinical population, through this narrative hopes to set the precedence for practicing clinicians to voice out the paramount importance of data keeping and contributions to best practices. Ethical clearance for humans has been obtained for this study.



### CORRELATION BETWEEN TRUNK RE-POSITION ERROR AND TRUNK CONTROL AMONG CHILDREN WITH SPASTIC CEREBRAL PALSY

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Abraham M Joshua. Associate Professor - Senior Scale.

Department of Physiotherapy, Kasturba Medical College, Manipal Academy of Higher Education, Mangaluru.

#### **Objectives:**

Children with spastic cerebral palsy (CP) are found to have impaired trunk control. Reposition sense, a component of proprioception plays a crucial role in maintaining spinal mobility and stability in normal individuals. The aim of the current study was to find the relationship between trunk control and Trunk Re-Position Error (TRE) in children with spastic CP.

#### Methods:

In this study 24 spastic CP children aged between 8 to 15 years were recruited. They were screened for inclusion and exclusion criteria. A written informed assent from the participants and consent from the parents / legal guardian were obtained. Trunk control and TRE were assessed using trunk control measurement scale (TCMS) and electronic goniometer by standard techniques of assessment.

#### **Results:**

Significant relationship was found between TRE and total TCMS score among children with CP (r = -0.589, p = 0.002). The TRE showed negative correlation with static (r = -0.588) and dynamic selective movement control (r = -0.576) subcomponents TCMS and was statistically significant with p < 0.05. With respect to another dynamic reaching subcomponent of TCMS, TRE showed weak correlation [r = -0.31, p = 0.14] and was not found to be statistically significant.

#### **Conclusion:**

Children with spastic CP with better trunk reposition sense had better trunk control and the current findings imply the relevance of proprioceptive training of trunk for enhancing trunk motor control among children with spastic CP. Ethical Clearance for Human and Animal Studies: The Institutional Ethics Committee of Kasturba Medical College [Manipal Academy of Higher Education], Mangalore approved the study.

#### **Funding:**

The study was not funded by any agencies.



### USE OF EVIDENCE BASED INTERVENTION STRATEGIES (EBIS) FOR CHILDREN WITH AUTISM IN SPECIAL SCHOOLS

#### Rajesh Ramachandran

National Institute of Empowerment of Persons with Disabilities (NIEPMD)

Children with Autism Spectrum Disorder (ASD) need scientific approaches for assessment, planning, intervention and evaluation to achieve maximum potential. The interventions for Autism differ in various aspects and focus on improving socialization, better communication, reducing problem behaviours and improving quality of life. Mostly the service provider and families select interventions that shows improvement for Individuals with ASDs. But there are instances wherein focused intervention or Evidence based Intervention strategies are far from practice. This poster presents that the usage of Evidence based Intervention Strategies (EBIS) among special education teachers working in Govt. and Non Govt. sectors. 20 special schools having special education teachers comprising of 20 teachers from Govt. special schools having special education qualification and 20 teachers from Non Govt. special schools having special education were given a rating scale to assess whether they use EBIS. The samples were the teachers who attended the Continuous Rehabilitation Education programme organized by National Institute of Empowerment of Persons with Disabilities (NIEPMD). There are plenty of EBIS hence the teachers should carefully try to validate the intervention strategies and understand the need for evidence based to use among children with Autism Spectrum Disorder

**Keywords:** Autism, Evidence based Intervention strategies



## ANDROID APPLICATION DEVELOPMENT FOR DELIVERING/RENDERING PHYSIOTHERAPY SERVICES DIGITALLY

Latika Gulyani, SRM College of Physiotherapy

K.Vadivelan, SRM Institute of Science and Technology

#### **Background and Objective:**

Physiotherapy services are provided by physiotherapists according to the clinical features and symptoms presented by the patients; when it comes to the paediatric age group, the areas that require attention by the therapist are primarily according to the chief complaints explained by the caregivers, rather than the patient itself. The commonly presented complaints include delay in achieving age specific milestones, like delay in head and neck control, sitting and standing. But everyone cannot access these physiotherapy services due to various reasons like unavailability of funds, lack of awareness, lack of time resources and easy accessibility by the people of low socioeconomic status, and other factors and circumstances. Nowadays, mobiles and tablets are easily affordable by people of all economic classes, so developing such an application which can provide a basic level (free) of exercises protocol after completed checklist of presenting complaints and contraindications, and an advanced level (low cost, inapp purchase) for the interested parents or caregivers who cannot visit the physiotherapy centres due to various reasons. Development of such a mobile-friendly application will also provide data of how many people or caregivers want to continue physiotherapy and there reason for not able to access physiotherapy services, so that necessary plans can be initiated for the betterment of the society. Even, this step can have a positive effect on the emotional and psychological factor on the people who cannot resume the physiotherapy services on daily basis but are in need for the same. With the success of this application, a global platform will be presented in the society in the scope of physiotherapy which can be collaborated with some organizations at a large scale.



### STUDY PROTOCOL: USE OF THE RASUIT INTENSIVE PROGRAM FOR PEDIATRIC REHAB

#### Latika Gulyani, ShriSruthi S, P.Deekshitha

SRM Institute of Science and Technology

#### **Background:**

Therasuit Method Intensive Program (TMIP) is an intensive individualized therapy program that accelerates functional progress. The program uses the Therasuit and the Universal Exercise Unit to allow the child to learn new & correct patterns of movement through strengthening and functional skills practice. It aims to improve independence with activities of daily living, body awareness, motor skills, balance and coordination. In recent years, it has been establishing as a new physiotherapy treatment, consisting of a suit, knee pads, straps and rubber bands that fit the needs of each patient. This treatment is recommended for both children and adults with neuromuscular diseases and motor problems, regardless of its cause, it retrains the brain is getting a correct position. Moreover, it cannot treat patients with severe degenerative diseases, uncontrolled seizures or with scoliosis of more than 90 degrees. The therapy consists of daily sessions of 3 hours, 5 days in a week for 4 weeks, at least once or twice a year depending on the condition and progress of the child. During these three hours, first a specific job of the muscles which are required to empower or relax, then the costume is worn and physical therapy exercises are performed that will depend on the objectives for each patient. Thus, excellent results are evident as compared to other therapies, as the duration of the session is longer; it increases the neurological level and the patient become faster in functional capabilities.



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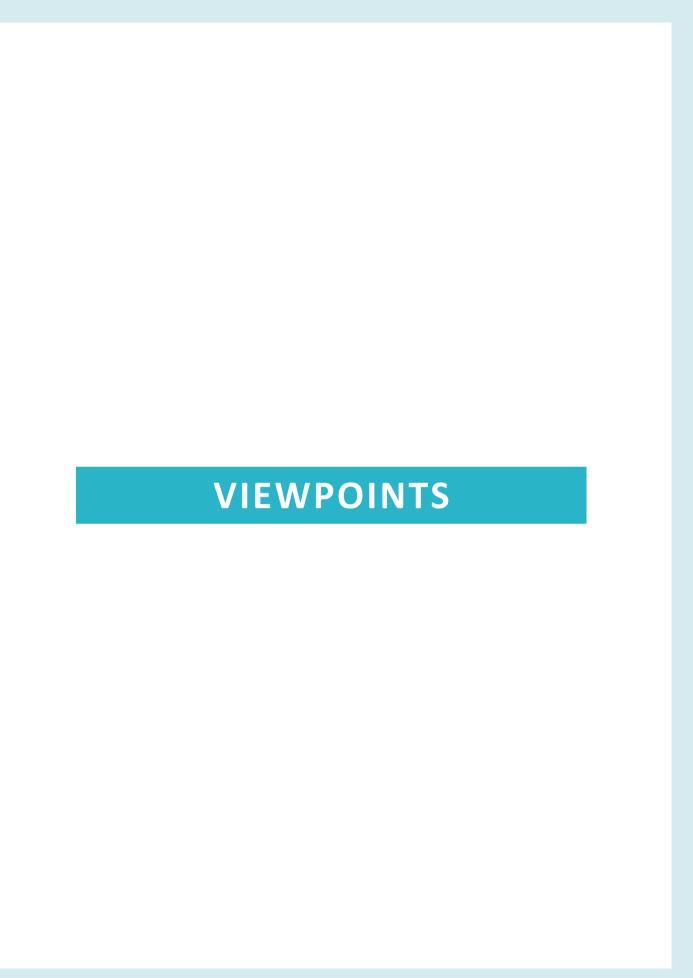


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### STRATEGIES FOR ACCOMMODATING CHILDREN WITH SPECIAL NEEDS IN A MAINSTREAM SCHOOL



**Dr. Manu Arun, MD Pediatrics, Certificate in Child Development**Director, Dr. Manu's Foundation Montessori Nursery Inclusive School, Nungambakkam.
Sri Narayana Child Clinic and Child Development Center, Vadapalani

Integrating children with special needs in a regular, mainstream classroom, unarguably, comes with several issues. Awareness of these issues and making essential changes enables successful integration.

#### What are the benefits of integration for a child with special needs?

#### Greater access to the mainstream curriculum

Students with special needs have more opportunities for academic growth because they have greater access to the mainstream curriculum. With greater exposure to the challenges of learning, such as adaptation to a possible sensory overload with other children's voices, sharing of space, material and attention from caregivers, following a routine, adaptation to sports and cultural activity classes and preparing for tests, they have better chances to take bigger steps forward.

#### Increased social opportunities and exposure to proper role models

Integration into the mainstream provides a chance for the child to interact with peers from mainstream environments. This help the child to develop indispensable socialization skills. Role modeling also helps to nurture social skills.

#### Increased skill acquisition opportunities

Mainstream curriculum presents the child with special needs with more chances to acquire the skills that are not necessarily included in a special needs curriculum. For instance, more mathematical concepts would be included in a mainstream curriculum than in one targeted at children with special needs. Opportunities to explore fields of sports and art forms is significantly more in mainstream schools.

#### Greater opportunities to be integrated into the community

Children with special needs in mainstream school make friends and are widely accepted by their peers. More often than not, children in the mainstream environment accept them once their needs are explained to them.

#### Increased self-respect and confidence among parents

Being in a mainstream environment creates more self-respect and confidence for a child's parents. Their self-esteem is given a great boost when they are around their peers in the mainstream environment. Parents are the primary therapists and their mental wellbeing is vital for the management of the child.

### What do administrators have to consider when integrating children with special needs into mainstream schools?

#### The child's readiness

It is not wise to integrate a child into a mainstream classroom when he/she is not developmentally ready (academically, emotionally and mentally). There are physical difficulties involved in integration which



the school should assess. For a child to be in mainstream school parameters which are essential are adequate attention to receive and follow instructions, adequate receptive language, trainable IQ, sensory profile that allows teachers to be able to look into the little one's eyes and teach and receive reciprocation during interaction, physical and verbal imitation, awareness of toilet and feeding needs, ability to communicate needs, sensory profile that allows response and does not get overwhelmed easily causing disruptive behavior.

#### **Strategies for Accommodation:**

The students with autism spectrum disorder at our school split time between the specialized autism classroom with one to one teacher and mainstream classrooms, depending on the severity of their deficits. Along with classroom time, they are also integrated with mainstream students in co-curricular activities including music, karate and art. For children who have Attention deficit, less reception, postural issues and gross motor delay, physical education classes are conducted for one and a half hours every day which helps them improve their attention and improves their response to call. Physical education improves

- Contracting and stretching of muscles
- Body's orientation to space
- · Vestibular system, position of head in relationship gravity which primes the entire nervous system
- Auditory system

All these play a major role in making the child ready for school and for processing information that is heard.

#### Child's inability to acquire skills in par with general curriculum

Children with special needs may need more time to master academic portions when compared with mainstream students.

Strategies for Accommodation: To address this issue, a step down, tailor made and evolving curriculum should be incorporated. For this we find the Montessori environment as ideal. This means children who are ready to sit down for alphabets will be introduced to them, and as they master each alphabet the next one will be introduced, so children in a given class will be at different levels of learning. Also printed workbooks are replaced with individualized worksheets, notebooks, slate and blackboard work. Notebooks used also vary. Big checked notebooks are used longer for alphabet and number work. 4 line notebooks may never be used. Also for some children cursive writing is not introduced. Instead print style alphabets are taught as it is easier to learn and is present in printed books when reading is began.

#### Children with restlessness and meltdowns

Teachers need to develop alternative ways to manage special needs students who are a little restless in the classroom. They need to know how to react when these students lose control of their emotions.

**Strategy for Accommodation:** A sensory room is an important especially when dealing with children within autism spectrum. An occupational therapist guided everyday sensory diet and intermittent sensory integration when there are meltdowns will be beneficial.

#### Take home message:

Key ideas which made integration successful in my school are:

- 1. Montessori environment
- 2. Daily sensory diet with physical education
- 3. Speech and occupational therapy in between classroom sessions.
- 4. Planning the split of time in each accommodation, according to the needs of the child.



#### **COMMENTS FROM A SPECIAL EDUCATOR**



Mrs. Sujatha Sriram
Lead Educator, Special Education
Nishta Integrated Neurodevelopment Centre

Inclusive Education is one where educators create a natural school environment for all children. It is a complex issue. Services for children with mixed disabilities must be as transparent as possible. Pervasive care is important to understand how children feel and how they fit in with peer groups. Dr .Manu Arun has beautifully summarized her experience and thoughts on integrating kids in an inclusive environment. Can't agree more. The focus of integration in inclusive education must include:

- Supporting the emotional needs of the kids
- Recognizing the potential of every child

Inclusive education involves a heterogeneous group where teachers should employ easy approachable strategies based on the learning styles and abilities of the children. Such strategies contribute to an overall inclusive learning environment in which every student feels equally valued.

- 1. Inclusive education should also provide suitable modifications in the examination system like:
- 2. Reading out the Questions paper.
- 3. Verbal memory of children must be respected as against expressive language.
- 4. Encouraging labelling rather than only detailed responses. Testing short portions.
- 5. Children's potential should be tapped and encouraged.
- 6. There must be positive reinforcement throughout their lifetime.

Dr.Manu Arun has aptly put forward the strategies for integrating children in mainstream school. Integration happens when all the professionals involved in the child's care understand the role of other care providers and work as a team. Integration involves seamless partnering and seeking knowledge from fellow professionals. At Nishta Centre this is what we focus on.



#### **EVIDENCE - A TOOL TO ENRICH YOUR EXPERTISE**



Dr. Meenakshi J

Director, NICE

The key to successful practice is to be in touch with current science to provide high quality care. This translates to continued knowledge acquisition and just not that but also applying it aptly.

The world is now running course on an information super way and healthcare is no exception. There is incredible amount of advice and information in the form of scientific meetings, lectures, journals, peers and the Internet. It is for the astute clinician to make a judicious choice. Evidence based practice is an important tool in this context. Evidence based practice is gaining popularity in healthcare since it was introduced in 1992. So what is it and how can we employ it aptly?

Evidence-based medicine (EBM) is the culmination of best research evidence with clinical expertise and patient values.

"Clinical expertise refers to the clinician's cumulated experience, education and clinical skills. The patient brings to the encounter his or her own personal preferences and unique concerns, expectations, and values. The best research evidence is usually found in clinically relevant research that has been conducted using sound methodology". (Sackett D, 2002)

When I employ EBM, I start with the fundamental goal of doing the best for my patient. This calls for employing the five As:

- Assess the patient and the issue in focus
- Ask Ask the questions based on the case
- Acquire Acquire the necessary data and info.
- Appraise Appraise the evidence for validity and check if it is appropriate for the client.
- Apply Integrate the evidence with clinical expertise, patient's values and apply it.

Self- Evaluation is the final step as I evaluate my work with the patient.

Self-evaluation lays the foundation for my future progress.

With rehabilitation, the duration is usually prolonged and the journey with the child and parents is arduous. There is also the challenge of working with an integrated team involving other departments as well. Here, while there is scope for broadening one's skill base, there is also the need to convince the client as well as fellow professionals about one's approach



towards therapy. To be able to do this, one has to consider the following while formulating way forward for a client:

- 1. The baseline risk for the condition for which intervention is needed.
- 2. Confirming the effect of intervention is real and not due to chance
- 3. The direction and size of the intervention effect
- 4. Any adverse effects, and their frequency
- 5. The economic and psychosocial consequences of intervention
- 6. Do the proposed benefits outweigh the risks and costs?
- 7. Is the intervention practically applicable to the case in question?

The common sources of new information are experienced fellow professionals, observational studies, randomized clinical trials and systematic reviews. Each has advantages and disadvantages and has an important role in the educational process. But with practice and continuous learning one knows what to apply and when. It is important to remember that evidence alone never is sufficient to make a decision. Good practitioners use both individual clinical expertise and the best available external evidence.

I concluded by quoting Sackett and associates, "Without clinical expertise, practice risks become tyrannized by evidence, for even excellent evidence maybe inapplicable tool or inappropriate for an individual patient and without current best evidence, practice risks become rapidly out of date to the detriment of patients."



#### **EMPATHY OR APATHY: WHY SHOULD I CARE?**



Ms. Deepika Mahesh Counselling Psychologist Nishta Integrated Neurodevelopment Centre

Recent research on empathy involved conversations surrounding the origin on empathy. Are we born this way? Or are we a product of our circumstances?

Researchers have found evidence for both statements. The discovery of mirror neurons indicates an activation in the same part of our brain in response to pain and while empathizing with pain. On the other hand, research also suggests that one's upbringing and the social context surrounding the person shapes the ability to empathize.

While these debates pertain to people in general, there has been some debate surrounding physicians and empathy. Initially, and even till date, the concept of professional detachment and its connection to providing better care occasionally has been championed by clinicians. The lesser the therapists and practitioners know about their patients or clients lives, the easier it will be for professionals to work with them. While this may help the professionals, from the patient's or client's perspective, one may come across as cold or uncaring. In the long run, it can impact practice and lower the rates of patient compliance and chances of them returning.

A few authors have defined empathy, specific to the field of health care. One specific author (Mudiyanse, 2016) defined empathy as a cognitive attribute that involves understanding as opposed to feeling, of patient experiences, concerns and perspectives combined with capacity to communicate this understanding with the intention of helping by alleviating pain and suffering. Connecting and understanding the person also reduces clinician burnout.

The nature of the profession, itself, sometimes mandates human interaction beyond a surface level. Taking into account the setting and the context of the clinic being in the urban or the rural set up, professionals will have to interact with people from different backgrounds - upbringing, beliefs systems, values, knowledge base, etc. Developing or even trying to understanding, cognitively, the stance and status of the person can help establish a strong rapport, which in turn helps compliance to therapy and also patient satisfaction.

One of the reasons why understanding another's perspective and background is important, is because it plays a key role in reducing the power dynamics and giving autonomy in decision making to the client. Empathy and awareness does influence the language used in communication with the client/ patient. Using scientific or medical jargon, while is second nature to a clinician can intimidate or impress, depending on the listener's background. Lack of awareness and understanding and using terms that is received negatively by the listener will



impact the nature of care, as perceived by the patient or client. After all, most patients or clients come to the doctor, because they're also not feeling very good.

The second part of empathy unequivocally is understanding oneself. This also becomes an important part of self-care. The concept of care can mean different things for people. Hence even empathy is displayed differently by all. Understanding as to why or how apathy or indifference or the inability to connect, or only being able to connect a certain way, with another is important. It may contribute to the gap or the missing link, that previously wasn't taken into consideration in administering therapy or other services. It also becomes important to note the use of 'cognition' and not 'affect' in the definition of empathy. Becoming too involved with the patient's or client's life will also jeopardize the services hailed by the client or patient.

It becomes easy to sit in a comfortable room and preach empathy through a non-confrontational medium, without providing avenues for practical application of the concept on the field. Till date, one of the things that I have found helpful is to constantly keep asking myself the intent behind everything that I do in a session. Why this toy or material? Why that question? Why did I recommend this medication? Can they afford is? Is that what they seek or is it some other form of help? And the ultimate follow-up question - how did the client appear to be feeling because of my actions, regardless of whether they say it out loud.

There have also been researchers who have mentioned, specifically for the medical student's community, the inclusion of a course on empathy. There are others who have also recommended the inclusion of an art form that goes beyond the books, for students to unwind and understand themselves and others better.

Given the current growing divide in understanding people, awareness and more importantly understanding another and maybe even acceptance of someone different becomes necessary. The need to belong and identify with someone is one of the basic needs, as classified by Maslow. Empathy has an inevitably impact on one's profession and like all professions it also bleeds into one's personal life, enhancing the person themselves.



#### **ETHICS - THE CORNERSTONE OF CLINICIANS**



**Dr. S.Subramanian**Director NICE

**"Ethics"** the word spells dignity and decorum. In the context of medical practice and more specific to rehab, let us examine as to how we can engage ethically.

Rehabilitation as we all know is quite testing for the clients as well as the therapy providers. Many factors influence the decision making, administration of therapy, outcome measures as well as the administrative aspects of the organization but ethical decision making is the key. All factors are beaded together with the strand called ethics.

In my sojourn in medical practice as well as organizational administration, I find that it is all about making the right choices based on the circumstances. With pediatric population, parents come with the anxiety, the kids themselves come with their in-built inexpressible anxiety. The emotional aspect is compounded with the hardships they face in their day to day affairs. Rehab usually is long term which calls for perseverance, therapy is testing which needs to be endured. Add to this, the family circumstances, the time and money spent in commute, loss of work time for parents, loss of schooling for kids and the frequency of therapy which would all add up to the cost of the clients. Bearing this in mind, and taking into consideration the available scientific evidence we formulate the way forward for the client.

Another aspect that needs to considered while making a decision is the availability of alternative medicine therapies which is in vogue. They have been a part of the society for long time albeit without the contemporary evidence based standards. There might be a struggle as to whether to accept them at all. We need not refute them outright as they do not fit into the contemporary medicine context. If there is enough proof and rationale behind the method adapted, we must be in a position to gauge the choice for the clients. Lack of evidence actually applies to certain emerging concepts in contemporary medicine as well.

After all the above considerations, we decide on the best possible course of action at that given point in time. Let us add one more factor to this. The organizational cost. Therapies are usually expensive due to their lengthier duration and a client may have to foot huge bills. But to provide effective and efficient therapy we need the system working. So we need to factor all these but nothing beyond what is best for the client.

"Ethics deals with the right choices of conduct considering all the circumstances. It deals with the distinction between what is considered right or wrong at a given time in a given culture." (Aji Markose, Ramesh Krishnan,1 and Maya Ramesh2 J Pharm Bioallied Sci. 2016 Oct; 8(Suppl 1): S1–S4. doi: 10.4103/0975-7406.191934)

I agree with the above. As we can see ethics blends evidence and empathy and provides effectiveness to rehabilitation.







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Our focus on exploring new avenues, sharing knowledge with fellow professionals and spreading knowledge finds avenues at NICE. From time to time, we offer programs for professionals as well as the community. These programs with strong evidence based scientific concepts enrich and enable new horizons for the stakeholders.



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