COMHAD

Commonwealth
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CHPA
Commonwealth Health Professions Alliance

RAMAIAH
Medical College

INTERNATIONAL CONFERENCE OF COMMONWELTH ASSOCIATION FOR HEALTH & DISABILITY 2018

(In Association with WHO, CHPA & Commonwealth Foundation UK)

Co-Hosts
NIMHANS, RAMAIAH MEDICAL COLLEGE, IAP BENGALURU & KARNATAKA
UNICEF INDIA, DME, RGUHS

8th & 9th December 2018 ❁ Bengaluru, India

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Souvenir & Bulletin
2018

Transforming comprehensive disability care in children from policy to practice

CHIEF GUEST

Honourable Shri Vajubhai Rudabhai Vala

GOVERNOR OF KARNATAKA

CHIEF GUEST

Honourable Shri Vajubhai Rudabhai Vala

GOVERNOR OF KARNATAKA

Vajubhai Rudabhai Vala is an Indian politician and the current Governor of the state of Karnataka in India since September 2014.

Vajubhai served as the Speaker of the Gujarat Legislative Assembly from 2012 to 2014. He was a member of Bharatiya Janata Party. He served as a Cabinet Minister in the Government of Gujarat, holding various portfolios, such as finance, labour and employment, from 1997 to 2012. He was elected to Gujarat Legislative Assembly from Rajkot West constituency multiple times.

Vala started his political career at the Rashtriya Swayamsevak Sangh and subsequently joined Jan Sangh in 1971. He was jailed for eleven months during the emergency in 1975. He was the Mayor of Rajkot in the 1980s. Later he contested state assembly elections from Rajkot and served as the Cabinet Minister holding finance, revenue portfolios from 1998 to 2012. He was the finance minister for two terms. He holds the record of presenting budget in Gujarat Legislative Assembly; 18 times as the finance minister. He was elected as the Speaker of assembly in December 2012 and served till August 2014. He was appointed as the Governor of Karnataka in September 2014.

Vala has also been closely associated with Rajkot Nagarik Sahakari Bank, where he planned, organised and developed the banking service. He was also the Chairman of the bank for five years on-and-off during 1975-90 period.

GUEST OF HONOR

Honourable Dr. M. R. Jayaram

Chairman, Ramaiah Group of Institutions

Dr. M.R. Jayaram is the Chairman of Gokula Education Foundation (GEF). He is the eldest son of Dr. M.S. Ramaiah one of the legendary philanthropists & educationalists of Karnataka. Born in 1947 Dr. Jayaram had his education in Bangalore. Since his young age he showed lot of interest in managing the educational institutions supporting his father in all the development activities.

In 1972, at the tender age of 25, Dr. Jayaram has taken the responsibility of Chairman of the Governing Council (now the GB) of M.S. Ramaiah Institute of Technology (MSRIT). His acumen and managerial capabilities brought laurels to the institute which has become widely known to be a premier institute in engineering education. After seven years, in 1979, when M.S. Ramaiah Medical College (MSRMC) was established, he assumed the office of the Chairman of Governing council for this college also. He led these institutions to become very strong in post graduate education and research, apart from acquiring a great name in under graduate education. Dr. M.R. Jayaram has been responsible for placing these institutions as the premier institutions in this country, finding a place in the top 25 institution in the country in their respective fields. As on today GEF has established 18 colleges/schools on its 85-acre Gnanagangothri Campus. The Schools include engineering, medicine, nursing, dental, law, management, etc., with more than 11,000 students on the campus comprising of students from all over India and abroad. It has been his determination and sustained effort that has made each of these institutions as a 'Centre of Excellence'. After the demise of his father, he created a superspeciality hospital in memory of his father, and this hospital has become a pride of Bangalore today. The MSR School of Advanced Studies is also his creation.

Dr. M.R. Jayaram is not only an educationist, but also a businessman and industrialist of repute. Recently he consolidated all his businesses and brought them under one name called “Valdel Corporation”. He is also into community development and philanthropy.

Dr. M.R. Jayaram is the Managing Trustee of M.S. Ramaiah Charities Trust, which has a number of well defined social objectives. The Trust awards scholarships annually to the financially backward meritorious candidates for pursuing higher education. He was also into politics for a short stint and was elected Member of the Legislative Assembly of Karnataka State. Dr. Jayaram is also associated with professional associations. Presently, he is Honorary Secretary, Karnataka Private Medical & Dental Colleges Association; Honorary Secretary, Karnataka Unaided Private Engineering Colleges Association; Vice Chairman, Consortium of Medical, Engineering & Dental Colleges of Karnataka (COMED K). In November 2006, Dr. M.R. Jayaram was awarded Honorary Doctorate by Coventry University, UK for his contribution to education and business.

Messages

ರಾಜೀವ್ ಗಾಂಧಿ ಆರೋಗ್ಯ ವಿಜ್ಞಾನಗಳ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಕರ್ನಾಟಕ, ಬೆಂಗಳೂರು
Rajiv Gandhi University of Health Sciences, Karnataka, Bengaluru

Dr. S. Sacchidanand
MD, DVD, DHA, FRCP (Glasgow)
VICE-CHANCELLOR

No.PS/73/ 2018-19

22.11.2018

Message

It gives me pleasure to learn that the International Conference of COMHAD 2018 is being organised with the theme 'Transforming Comprehensive Disability Care in Children from Policy to Practice', at Bengaluru on 8th and 9th December 2018.

COMHAD is an organisation which is officially associated with the World Health Organisation, and is actively focused on preventive health care and improved health care for those in greatest need. It has worked closely with WHO's Government, Civil Society and Private Sector Relations department in recent years on partnership-building for health.

The theme of the current conference is very appropriate for translating into action the various agenda that have been deliberated upon, and some feasible solution is in sight. This would bring the much needed relief to the vulnerable population and their care givers.

I am hopeful that the deliberations of the conference will converge into an action plan.

I compliment the organisers and delegates and wish the conference a great success.

Dr. Sacchidanand
Vice Chancellor

Dr. (Mrs.) Mrudula A. Phadke
MD. DCH. FIAP, MRCP(UK), FRCP CH (UK), MNAMS, FNAMS

- Sr. Adv. NHM, UNICEF
- National Prof. & Hon. Scientist,
  Haffkine Institute of Training, Research & Testing, Mumbai
- Impendent Director, Serum Institute of India Pvt. Ltd., Pune
- Adjunct Prof., Maharashtra University of Health Sciences, Nashik
- Ex. Vice Chancellor, Maharashtra
  University of Health Sciences, Nashik
- Ex. Director of Medical Education &
  Research, Govt, of Maharashtra

MESSAGE

It gives me immense pleasure to express my sincere thanks and also offer accolades to the organizers of the International conference of COMHAD 2018 which is being held on 8th and 9th December, 2018.

The theme of the conference is Transforming comprehensive disability care in children from policy to practice'. This is so appropriate today when we know that the latest advances in science must first change from knowledge to practice as also from bench to bedside,

One has to begin from prevention. We know that health and nutrition both under nutrition and obesity are important if we want to prevent birth of a child with disabilities. Cognitive function of a child is related to maternal nutrition. We know that rubella vaccine administered to an adolescent girl is going to prevent occurrence of congenital rubella syndrome in the baby (microcephaly, cataract, congenital heart disease, deafness). We know that periconceptional folic acid prevents neural tube defects and adequate dietary iodine prevents hypothyroidism. How many of us advise these measures which are then to be followed by our patients□

We know that BCG vaccine at birth will prevent widespread dissemination with the child getting T.B. meningitis and further cerebral palsy. Similarly meningitis vaccine will prevent bacterial meningitis with its sequel. Child bearing at the right age, undertaking screening for Down syndrome will prevent many chromosomal abnormalities. Newborn screening for inborn errors of metabolism at least for phenylketonuria, congenital adrenal hyperplasia, hypothyroidism, sickle cell disease in affected regions, G6PD deficiency will prevent these diseases and subsequent handicaps. We must translate this knowledge into action.

We know well by now that untimely and excessive exposure to social media can lead to affliction of young minds and brains. Many of us may not know the role of paternal nutrition and smoking in foetal development. So it needs consideration.

Thus formulation of good policies in national programs and their correct implementation in practice will go a long way in protecting national health and well being of our children.

I wish the conference a great success and hope that scientific deliberations will tackle all these issues.

Dr. (Mrs.) Phadke M. A.

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Prof. Rajaram Pagadala

MD (ObGyn), DSS (Vienna), PhD (Pop.Studies),Dip. Health Economics (Bangkok)
FIAP, FICS,FAMS,MAMS, FIMSA
Chancellor & Professor Emeritus (former)
Sri Balaji Vidyapeeth University, Puducherry
Deputy-Director General of Health Services, Govt of India,
Consultant: International Medical Education, Caribbean Medical Schools
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MESSAGE

The International Conference of COMAD will be an academic extravaganza that has the support of national and international organizations like CHPA, IAP, UNICEF, Bangladesh (COMHAD) besides Govt. of Karnataka and RGUHS. The theme of the conference is the much needed topic to discuss “Transforming Comprehensive Disability Care from Policy to Practice”’.

The subject of disability must be viewed not only from the political angle but should also examine from social perspective that ultimately leads to economic development. Attitudinal changes in the family and community is required for a social harmony that directly relates demanding for fundamental human rights for the disabled. Last few years revolutionary changes in the policies and practices have been made globally for the LGBT to overcome their problems and live a healthy normal life. Then why not Disabled?

I am sure the conference that is being organized under the stewardship of Prof. Uday Bhodhankar, our President, indeed will be rich in its academic flavor. Delegates attending will have unforgettable experience and information. I am also confident that the Organizing team lead by Dr, Jayoji Rao ably assisted by Drs. Vasanth Khalatkar, Mallikarjuna and their team and effectively advised by our past Jt. Secretary, Dr Yashwant Patil will provide rich academic menu.

I wish the conference great success.

Prof. Rajaram Pagadala

PROF.DR.S.ARULRHAJ,MD.,FRCP(G)
Acute Medicine Physician
Chairman

ommonwealth Medical Association Trust, UK
ounder Chairman CHPA,UK
ast President CMA, UK
ast National President IMA, India
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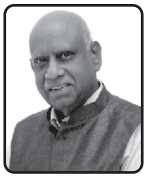

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India
20.08.2018

Dear Uday & Patil,

Warm Greetings from Commonwealth Medical Association Trust, UK.

Happy to learn the Organisation of International Conference of COMHAD 2018 at Bangalore, the IT City of India on 8th & 9th of December 2018.

COMHAD is a vibrant Commonwealth Accredited Organization & an active participant of Commonwealth Health Professions Alliance, UK

COMHAD is doing the yeomen service of addressing the issues of Health & Disability in Commonwealth Countries.

I have always great passion towards COMHAD & cherish my long relations with International President Dr Uday Bodhankar & Prof Sirajul Islam

I went through the Scientific Highlights of the Conference; it is of great relevance to COMHAD.

I am thankful to the Organizing Committee of COMHAD 2018 for inviting me to be part of this memorable event.

I am confident under the stewardship of all the leaders, COMHAD 2018 will be a great success.

Wishing COMHAD 2018 highly purposeful & successful.

Best wishes,

Prof.Dr.S.Arulrhaj,MD,FRCP(G)
Chairman, Commonwealth Medical Association Trust, UK
Past Chairman, Commonwealth Medical Association
Founder & Past Chairman, Commonwealth Health Professions Alliance

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Wisdom

Smart Working

Achievement

Message

I am happy to note that the International Conference of Commonwealth Association for Health & Disability (COMHAD) is being held on 8th and 9th December 2018 at Ramaiah Medical College, Bengaluru.

I am sure that the conference will enhance the prevention of various disabilities

and their rehabilitatiotoin’ the community.

I congratulate the organizing committee of this conference for their enormous effort to organize this conference and wish them success.

I extend a warm welcome to all the delegates to Ramaiah Medical College and wish them a pleasant experience on the campus.

Medha.Y.Rao

Dr.Medha Y.Rao
Principal & Dean

PRINCIPAL AND DEAN
M.S. Ramaiah Medical College
& Teaching Hospital
Bangalore - 560 054

Message

It is a matter of great pride and privilege for me to welcome you all for this unique International Conference of COMHAD at Bangaluru . INDIA from 7th to 9th December 18 with the theme :

TRANSFORMING COMPREHENSIVE DISABILITY CARE FROM POLICY TO PRACTICE

Globally, about 200 million children do not reach their developmental potential in the first five years because of poverty, poor health, nutrition and lack of early stimulation. The WHO estimates that 15-20% of children worldwide have disabilities; 85% are in developing countries

The optimal development of the child must be ensured during the early years by avoiding – as much as possible – perinatal, genetic, metabolic and environmental risk factors.. The most common forms were: developmental delay (69.3%), speech delay (14.3%), global delay (5.7%), gross motor delay (5.3%) and hearing impairment (3.6%)

With increasing focus on developmental disorders, the Government of India has undertaken two initiatives: questions regarding disability were included for the first time in the 2011 Census of India; and a national program for screening, diagnosis and treatment of NDDs – **the Rashtriya Bal Swasthya Karyakram** was launched in 2013, with focus on district intervention centers

Universal screening should lead to early detection and timely intervention of medical conditions, ultimately leading to a reduction in mortality, morbidity and lifelong disability. The dividends of early intervention would be huge, including improvement of survival, reduction of malnutrition, enhancement of cognitive development, educational attainment, and overall improvement of quality of life of our citizens

The academic dream project of respected Prof Mrudula Phadke madam of releasing in depth COMHAD Bulletin from experts related to all aspects of childhood challenges need to be complimented along with efficient editorial committee members .

I must congratulate the enthusiastic team of experts working hard for the success of this mega academic event under the able dynamic leadership of Dr jayojirao chairman ,Prof. mallikarjun organizing secretary and other organizing & scientific committee members.

Our driving vision is of an inclusive world in which the challenged are all able to live a life of health, comfort, and dignity. We invite you to help this vision become a reality.

Wishing you all Merry x mass and Happy New year

Dr. Uday Bodhankar
International President
Commonwealth Association For Health & Disability
Adjunct associate professor Pediatrics -Sydney university
International Council Member - ASPR-Japan
Nodal officer -RCPCH -DCH -UK
Ramdaspeth,Nagpur - 440 012 India ubodhankar@gmail.com

Message

Dear Esteemed Delegates,

Wish you all Happy and prosperous New Year 2019 in advance!

On behalf of the Hon. Secretary COMHAD (UK) with a great sense of pride and privilege, I take this opportunity to invite you to the Garden City of India, to attend this unique convention, International Conference of Commonwealth Association for Health and Disability (COMHAD) 2018, from 8th to 9th December 2018.

I am extremely thankful to the hardworking, trustworthy and sincere working force on forefront of COMHAD India, who has burnt their blood and sleep to make the event a memorable one and need to be complimented for their tireless efforts. Indeed we are indebted with their generous and friendly approach towards COMHAD.

Renowned experts who are acknowledged authorities in their respective fields are expected to attend this conference. The theme of the conference is “Transforming Comprehensive Disability Care from Policy to Practice”. Considering the theme every effort is being made with the guidance provided by the seniors to make this conference a valuable learning experience academically, through excellent, unaffordable, happiness, confidence session; and a memorable one socially.

I am sure this Conference is going to give you all, an opportunity to share the knowledge and experience with eminent national and international faculties.

I will fail in my duty if I do not express my sincere thanks to our dynamic International President of COMHAD Dr Uday Bodhankar, for their blessing & valuable guidance in making this impossible mission to possible with immense support by, Dr. K. Jayoji Rao, Dr Yashwant Patil, Dr. Mallikarjuna H.B, Dr. Madhu G.N, Dr R G Patiland all other Committee members of Organizing team.

I look forward to your active participation and assure that you will enjoy Bangalore hospitality and carry home the sweet memories of the conference.

With warm regards and best wishes& hope to meet you all in new conference

Dr. Vasant Khalatkar
Secretary General COMHAD (UK)

Message

Dear Colleagues, Senior Participants,

On my behalf and organizing committee of Common Wealth Association for health and disability COMHAD 2018, its an honor and very great pleasure to invite you to this International conference scheduled to be held on 7(h, 8th & 9th December 2018.

The Theme of conference is "Transforming Comprehensive disability care in children from policy to practice" has significance in current scenario in developing countries around the world.

The scientific COMMITTEE and organizers of this conference have arranged oration, workshops, physiotherapy and panel discussions, Reflecting the child health scenario in this country, Eminent personalities with original works in their respective fields have been invited to take part in the deliberations of the conference, the organizers are confident, that this conference will provide a feast of scientific information to all participants.

The exact size of this problem and causes of intellectual disability in developing countries are not known, but why common wealth. The answer is manageability, representing as it does all the races, cultures and economic conditions of mankind.

The first workshops and general assembly was held in India, which has advanced science and technology alongside vast development and health problems.

The concept of a common wealth association for the scientific study of intellectual disability originated at a congress in Bangalore in May 1981 our co-sponsors in the National Institute of Mental health and Neurosciences (NIMHANS) where so much effective work on intellectual disability is being done.

Neuro-developmental disorder high in India. According to the 2011 census by lead author K. Arora, the prevalence of disabilities survey showed that depending on location, the no, may be as high as 19% Prevalence of neuro developmental disorder, around children less than 10 years old living in India may have at least 12% one neuro-developmental disorders such as hearing impairment, Autism, Cerebral palsy, ADHD and speech, language vision impairment, other Neuro Impairment.

As a COMHAD India chapter president and Chairman of International COMHAD conference look forward to seeing you and meet you in Bangalore, at the conference stand.

With warm regards

JAYOJI RAO .K

Message

Dear Esteemed Delegates,

GREETINGS from Organizing Committee of International COMHAD 2018, conference!!!

Welcome you all the Distinguished delegates for this UNIQUE disability conference, bringing together all the multi-specialty disciplinary faculties together under one umbrella i.e. COMHAD conference 2018.

It is heartening to know all of us are working towards the care of differently abled children requiring multispecialty approach involving Paediatricians, Neurologist, Neurodevelopmental specialists, Physio/Occupationaltherapists, Paediatric-Orthopedics / Ophthalmologist/ Otolaryngologists, Psychologist, Psychiatrists and supportive team needed by these disabled children.

The problems of plenty in taking care of these children by parents and school teachers is a challenge in day to day care. These challenges will be addressed in this UNIQUE conference. The highlights of the conference are:

1. International & national faculty who are experts in the field.
2. Pre conference workshop- hands on training
3. Focused on most challenging areas of disability i.e.,Intellectual disabilities, learning disabilities, school failure, ADHD, Autism, Prevention of disabilities and many more exciting topics with special feast of academics.

We the COMHAD organizing team INDIA CHAPTER,RGUHS, DME Ramaiah Medical College, IAP –K & Bengaluru (BPS), NIEPMD ,NIMHANS, have come together along with the International COMHAD Association with the theme " Comprehensive disability care: from policy to practice" in adopting the best skill based practices in providing quality care for disability.

It is a great sense of pride and privilege; I take this opportunity to invite you to the Garden City of India, Bengaluru & Ramaiah Medical College Campus to attend this unique convention, International Conference of Commonwealth Association for Health and Disability (COMHAD) 2018, from 8th to 9th December 2018.

I am extremely thankful to the disciplined, meticulousand committed team force on forefront of COMHAD India, who have worked tirelessly to make the event a UNIQUE &memorable event and need to be commended and remembered for their vitalefforts.

We are grateful to our beloved Honorable Chairman DR.M.R.Jayaram, who is been our guiding force for all our academic endeavours&DR.Medha Y Rao, Principal & Dean, RMC, DR.NareshShetty, President RMH, Prof SavithaRavindra, Principal, Physiotherapy College, DR.Harish, Associate Dean, RMC, , DR.Narendranath.V, RMCH, My sincere “Pranams” to our dynamic International President of COMHAD Dr. Uday Bodhankar & secretary Dr. Vasant Khalatkar, Dr. Yashwant Patil, for their blessings & valuable guidance in making this UNIQUE disability conference with great support by, Dr. K. Jayoji Rao, Dr. H.Paramesh, Dr.M.S.Mahadeviah Dr. Suresh Rao Aroor, Dr. Somashekar, A R , Dr. Karunakar. B P, Dr. Madhu G.N, Dr. R. G. Patil, Dr. Kirthi Joshi, Dr. Ravikumar C. P., and all other Committee members of Organizing team.

I look forward to your active& interactive participation .we assure you a enjoyable Bangalore hospitality and Academic feast to carry home the scientific memories of the conference.
I am sure that this UNIQUE DISABILITY CONFERENCEwill TRANSFORMthe delegates knowledge to SKILLS !!!

Wishing you all Merry Christmas!!! & Happy and prosperous New Year 2019 !!!

With warm regards

DR.MALLIKARJUNA H.B.
MBBS,MD (PAEDIATRICS), DCH, IYCF,
Chief Organizing Secretary , International conference of COMHAD 2018,
Professor of Paediatrics,Ramaiah Medical College.
EXECUTIVE BOARD MEMBER of CIAP 2018& 2019,

INTRODUCTION TO COMHAD MISSION AND COMHAD EXECUTIVE (2016-2018)

COMHAD INTRODUCTION

COMHAD was established in the United Kingdom in 1983 with support from the Commonwealth Foundation. COMHAD is one of the Commonwealth Professional Associations and a Pan-Commonwealth Non-Government Organization (NGO) working in the field of health and development focusing on preventive health care. COMHAD is in official relations with WHO since 1990 and is a long standing partner of WHO for collaboration. It is actively involved in promoting health development, exchange of technical expertise and inter-country training and education in health in 53 Commonwealth countries all over the world.

Aims & Objectives :

The aim of the Association shall be to provide education and research in health and disability for quality of life by raising awareness for prevention of disease and disabilities and promoting health care for low and middle income group of the community in urban settings. In the furtherance of this aim the Association will advocate and promote :

i. Quality health care

ii. Accessible, acceptable and affordable health care, in particular for differently able people.

iii. Professional links between workers in health and disability across the Commonwealth.

iv. The aims and objectives will be achieved through regional and international conferences, workshops and symposiums, publications and communications, demonstration and other projects, training exercises and professional exchange and development programmes.

Membership & Voting Rights :

i. Membership of COMHAD shall build upon, be continuous with, and transferable from its predecessor CAMHADD.

ii. Membership shall be open to interested individuals from any commonwealth country.

iii. Membership of the Executive Committee shall be open only to individuals from Commonwealth countries. However, those having changed citizenship, but originally coming from a Commonwealth country may be elected to the Executive Committee.

iv. On acceptance, each member will pay such annual subscription as may be determined by the Executive Committee. Subscriptions fall due on 1st January and all members are expected to pay promptly and remain in good standing, which will remain valid till 31st December. The subscription of membership will be the same whenever in the calendar year one is accepted as member of the organization.

v. All members may vote on matters put before the General Assembly.

Termination of Membership :

Membership may be terminated as follows :

i. By resignation.

ii. Through default in the payment of membership subscriptions.

iii. Where conduct is in any way damaging to the interests and good name of the Association, in which case the Secretary General will notify the member to explain his/her conduct within 30 days. If s/he fails to do so or his/her conduct or his explanation is found to be unsatisfactory, the Executive Committee is empowered to remove such a member. iv. Membership of the Executive Committee may be terminated if any member remains absent from three consecutive meetings, or does not respond by post or emails explaining the reasons for such absence.

COMHAD Office Bearers (2016 - 2018)

Founder
Late Dr. V. R. Pandurangi

- **International President**
  Dr Uday Bodhankar
  NAGPUR, M.S, INDIA

- **International President Elect**
  Prof. Sam Lingam
  LONDON, UK

- **Imm. Past President COMHAD**
  Prof. Md Sirajul Islam
  DHAKA, Bangladesh

- **Vice – President (Asia)**
  Prof. T. A. Chowdhury
  Bangladesh

- **Vice – President (Canada / Caribbean)**
  Prof. Rajaram Pagadala
  MACON, USA

- **Vice – President (Africa)**
  Dr Adenike Grange
  NIGERIA, Africa

- **Vice – President (Pacific)**
  Prof. Kathryn Currow
  Australia

- **Secretary General**
  Dr Vasant Khalatkar
  NAGPUR, MS, India

- **Joint Secretary**
  Dr. Suchit Bagde, Dr. Urmila Dahake
  NAGPUR, MS, India

- **Treasurer**
  Dr. R. G. Patil
  NAGPUR, MS, India

- **Advisors**
  Dr. S. Arulrhaj
  Dr. M. S. Rawat, Dr. Yashwant Patil

- **Executive Board Members**
  Dr. H. Paramesh, Dr. Prakash Sanghavi
  Prof. Md. Tawfique, Prof. Md. Fazlul Haque

- **Hon Legal Advisor**
  Adv Mukund Manoharrao Papinwar
  High Court, Nagpur, India

COMHAD News Letter
Prof. Dr Mrudula Phadke, Chief Editor
MUMBAI, MS, India

COMHAD India Chapter

National President

Dr K. Jayoji Rao

National Secretary

Dr. H.B. Mallikarjuna

Vice Presidents

Dr Raghava Rao
Dr. Ramesh Nigade

Joint Secretary

Dr Santosh Soans

Treasurer

Dr Madhu G. N.

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Dr Vijayasekaran
Dr Agnihotri Kajna
Dr Virendra Gaonkar
Dr Somashekar A.R.
Dr Aileen Mathias
Dr. Girish Chavde
Dr Meenakshi Bhat
Dr G. A. Manjunath
Dr Vijay Jain
Mr Arun Kumar

Representatives from Central Executive Committee of COMHAD

Dr Uday Bodhankar
Dr Vasant Khalatkar , Dr H. Paramesh

Advisory Committee

Prof. M. Phadke
Dr Ravindranath K.S.
Dr M. R. Lokeshwar
Dr Anupam Sachdeva
Dr Sanjiv Rai B.
Dr Rohit Agrawal
Dr Yashwant Patil
Dr Mahadeviah
Dr Ganeshan K. M.
Dr Sukumaran

COMHAD Bangladesh Chapter

President
Prof. T. A. Chowdhury

Vice Presidents
Prof. M.A Aziz
Prof. Ekhlasur Rahman

Secretary
Prof. Md. Sirajul Islam

Joint Secretary
Prof. (Dr.) Md. Jahangir Alam

Treasurer
Prof. Farid Ahemed

Scientific Secretary : Dr. Probir Kumar Sarker

Organizing Leader : Prof. (Dr.) Wanaiza Rahman

Publication Secretary : Dr. Md. Shafiul Haque

Entertainment Secretary : Prof. Mahbul Haque

Members
Hamdard Bangladesh Representative, Dr. A. B. Bhuiyan, Dr. Nurul Islam (Sujon)
Dr. A. Z. M. Mahibul Azam, Shaoli Sarker.
(two more member to be named later)

International Representative to COMHAD, Bangladesh
President (COMHAD): Dr. Uday Bodhankar
Secretary General (COMHAD): Dr. Vasant Khalatkar

Representative to Central COMHAD from Bangladesh
International Vice President : Prof. T. A. Chowdhury
Member EC (Central): Prof. Fazlul Haque, Dr. Mohammad Tawfique

REPORT OF COMHAD ACTIVITIES : August 2008-2015

- COMHAD (Commonwealth Association for Health and Disability) met at Puducherry on 15th & 16th August 2008 and reorganized the organization. The theme of the two days workshop was "CAMHADD Vision 2020 : Aids and Child Development".
- COMHAD was previously known as CAMHADD (Commonwealth Association for Mental Handicap and Developmental Disabilities). However the terminology came under criticism as not being appropriate to address the disabled. Thus during the General body meeting of CAMHADD at Puducherry it was resolved and adopted the change in name of the organization as COMHAD on 15th August 2008.
- Dr. Mark Collins, Director of the Commonwealth Foundation was present during the entire procedure of the two days workshop of COMHAD at Puducherry which also elected the new COMHAD Executive Committee.
- Subsequently the new amended Constitution was given a final shape and adopted by the general members on dated 16th August 2008.
- The EC of COMHAD consists of one President, five Vice presidents from Asia, Africa, Canada / Caribbean, Europe/UK, Pacific, one Secretary General, one Treasurer, and two Joint Secretaries.
- After finalization of the Constitution, COMHAD launched its website as http://www.comhad.com. The website consists of the constitution, membership form & publishes activity news and pictures.
- As a part of activity of COMHAD, the Bangladesh Chapter of COMHAD was reorganized and constitution of Bangladesh Chapter was finalized and adopted. Information regarding the Bangladesh Chapter is also available in its website.
- Late Prof. M. S. Akbar, a pediatrician of International repute was the President of the Bangladesh Chapter of COMHAD. He was elected member of the Parliament for four times& was the Chairman of the Bangladesh Red Crescent Society.
- The Bangladesh Chapter of COMHAD is working with Projects on childhood disabilities.
    a) Development of the Neuroscience & childhood development facilities at BSMMU.
    b) Childhood Low Vision and Blindness c) Autism
- As a part of COMHAD activity COMHAD India chapter was formed in 2011 at Goa.

  The first National Conference of COMHAD India chapter was organised on 30th June 2013 under the leadership of Dr. Prakash Sanghavi President COMHAD India.
- Dr. Uday Bodhankar, Secretary General, COMHAD was also designated as the focal person of COMHAD for all the NGO & WHO contacts. He represented COMHAD on the 60th Anniversary of the Commonwealth Foundation. He met the Director of the Commonwealth Foundation and also visited the Buckingham Palace and met Her Majesty the Queen of England on 28th April 2009 & also H.E. Shri Kamalesh Sharma, Secretary General of Commonwealth Nations.

- Prof. Md. Sirajul Islam, President represented COMHAD at the 63rd World Health Assembly and also the Commonwealth Health Ministers meeting on 16-17 May 2010.
- Dr. Sirajul Islam & Dr. Kathryn Currow, attended debate on “G Goal 2015 achievable or not achievable” organized by CNF. The meeting was addressed by Jill Iliffe, Secretary - CNF, Dr. Mark Collins - Director, CF and Dr. Arulrhaj, President CMA and others.
- COMHAD organised International Conference at Goa, India on 10 & 11 Sept. 2011. Theme “Women as Agents of Change; Invest in Women & Transform the World”.
- COMHAD had Scientific Session in National IAP Conference (PEDICON 2012) at Gurgaon, India on 20th Jan. 2012. Theme “Save the Women & Child”.
- COMHAD had Scientific Session during 9 National Disability Conference at Nagpur, India on 15th & 16th Sept. 2012. Theme “Challenges to Opportunities Together We can”.
- COMHAD Bangladesh has organised International Conference at Dhaka, Bangladesh, on 20t h& 21st Jan. 2013 Theme “Disability Puts no Limit to Ability”.
- New COMHAD Executive Body was elected for three years (2013-2015) by General Body Meeting at Dhaka, Bangladesh on dated 21 stJan. 2013
- National Conference of COMHAD India was organized at Kolhapur, India on 30th June 2013 by President Dr. PrakashSanghavi. Theme “Create Awareness through Action”.
- Three Days Awareness & Assessment Camp, Training Program for parents & nursing students, Niramay Policy registration camp, on 12th -14th August 2011 at Nagpur, India.
- Free Aids & Appliances Distribution Camp for person under ADIP on 19th Jan. 2013 at Nagpur , India.
- Three Days Continuing Rehabilitation Education Programme (CRE) for Psychologists and Rehabilitation Professionals, on 7th - 9th Oct. 2013 at Nagpur, India.
- Free Aids & Appliances Distribution Camp for person with disability under ADIP on 19th Nov. 2013 at Nagpur , India.
- Continuing Rehabilitation Education Programme (CRE) on “Inclusive Education” on 10th - 12th March 2014 at Nagpur, India.
- Training Programme on “Orientation to International Convention on the Rights of Persons with Disabilities” on 10th May 2014 at Nagpur, India.
- CRE program on “Psychological Intervention for Children with Developmental Delay “on 25th Feb. 2015 at I.M.A. Nagpur, India.
- International Conference of COMHAD, CHPA & IAP 2015 is being organized at Nagpur, MS, India on 5th & 6th Dec. 2015.

* * *

COMHAD
ANNUAL REPORT
(January 2016 – December 2018)

(Presented on 8th December 2018 at Ramaih Medical College Auditorium, Bengaluru, Karnataka, India)

It is my privilege to present the Annual Report since January 2016 of our esteemed organization. I am presenting highlights of the activities and the achievements of COMHAD and the members.

A. MEMBERSHIP

Indian : 49 New + 156 Old ≤ 205
Overseas New : 4 New + 91 Old ≤ 95 (from 45 commonwealth countries) (New: 2 from Bangladesh & 2 from UK)
Overseas Old Directory: 283 (263 from Commonwealth countries & 20 from Non-Commonwealth Countries)
Total : 205 + 95 ≤ 300
Grand Total : 300 + 283 ≤ 583

B. COMHAD activities: Since January 2016 (Calendar of Events)

INTERNATIONAL CONFERENCE COMHAD 2015, NAGPUR

International Conference of COMHAD 2015, in association with Commonwealth Health Professions Alliance (CHPA), Indian Academy of Pediatrics Nagpur, UNICEF, DMER, MUHS, India & Bangladesh Chapters of COMHAD, was organized at the most famous “Orange City of Nagpur, MS, India” on 5th & 6th December 2015 at Hotel Centre Point, Central Bazar Road, Ramdaspeth, Nagpur, MS, India.

The theme of the conference is **“Global Empowerment and Inclusion of Special Children”** as we find more and more inclusion of specialized services for special children in the top of state powers, Government and NGO’s activities.

The conference was inaugurated at the hands of Hon. Shri Nitinji Gadkari, Union Minister for Road & Transport & Highways, Shipping & water Resources, River Development & Ganga Rejuvenation Government Of India. He promised to work for disabled in association with COMHAD. The conference was attended by about 700 delegates.

COMHAD SCIENTIFIC SESSION AT PEDICON 2017 at BENGALURU, INDIA

With the kind help and cooperation of the then National President of Indian Academy of Pediatrics, COMHAD Scientific Symposium was organized during National Conference of Indian Academy of Pediatrics – PEDICON 2017 held on 19th & 20th January 2017, at Royal Palace Ground, Bengaluru, India. Faculties and participants were from COMHAD and IAP. About 300 delegates were present.

Scientific deliberations based on theme "Save The Women and Child" were discussed. Prof Dr Md Sirajul Islam and Prof Dr Kathry Currow were international faculties and Dr Sunil Khaparde DDG NACO MOH Govt. of India and Dr Baya Kishore DC Training MOH & FW Govt. of India were national faculties.

It was concluded and endorsed that, with more active participation of medical and paramedical in such academic activities of COMHAD it is possible to educate common public in community in respect of prevention of disabilities and use of resources to minimize morbidity while taking into confidence the local political leaders. This will minimize the burden all over and thereby qualitatively will change the social infrastructure of community to live in a better place all over the world.

CRE PROGRAMME, MUMBAI, INDIA

Continuing Rehabilitation Education Programme on "Inclusive Education" was held on 26th & 27th February 2017 at Mumbai, MS, India. Total beneficiaries were 80 including Physiotherapists and Developmental therapists.

WORKSHOP / TRAINING PROGRAMME FOR MEDICAL OFFICERS, NAGPUR

Workshop on Fighting Challenges for Disabled Children was conducted with the help of UNICEF for the Medical Officers working at Primary Health Centre and District Hospital on 15th April 2017 at Nagpur, MS, India.

WORKSHOP ON SURGICAL INSIGHT IN MANAGEMENT OF SPASTICITY, NAGPUR

This is a yearly activity of COMHAD conducted by our esteemed member Dr Viraj Shingade Pediatric Orthopedic Surgeon on 28th May 2017 at Children Orthopedic Care Institute, Besides Haldiram, Ajni square, Wardha Road, Nagpur, MS, India. Dr Sanil Koyili Occupational Therapist and Dr Urmila Dahake Neurodevelopmental Pediatrician were Co-coordinators for this workshop.

It was live presentation demonstrating operative skills. Workshop was attended by 112 beneficiaries such as Physiotherapist, Neurologist, Developmental therapist, Orthopedic surgeon and Pediatricians.

CRE PROGRAMME, NAGPUR

Continuing Rehabilitation Education Programme on "Psychological Intervention for Children with Developmental Delay" was held on 15th July 2017 at Indian Medical Association Hall Nagpur, MS, India. Total 99 people beneficiaries got educated with hands on training.

52nd ANNIVERSARY CELEBRATION OF COMMONWEALTH SECRETARIAT, LONDON, UK

On behalf of COMHAD Prof Ramesh Mehta has graced this prestigious function of 52nd Anniversary Celebration of Commonwealth Secretariat at Marlborough House, London, UK.

PUBLICATION OF NEWS LETTER/ BULLETIN OF COMHAD, NAGPUR

Two News Letters were released during 2017-2018.

One at the hands of Hon Shri Rajkumar Badole Cabinet Minister of Social Justice & Special Assistance Government of Maharashtra Nagpur.

Second was released at the hands of Hon Dr Milind Mane Member of Legislative Assembly Government of Maharashtra Nagpur

At present the Editorial Board (2016-2018) of the Bulletin is as follows: -

Editor-in-Chief

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Former VC MUHS Nashik
Sr. Consultant UNICEF, Director NRHM
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Dr Uday Bodhankar, Dr Md Sirajul Islam, Dr M S Rawat, Dr Yashwant Patil, Dr Vasant Khalatkar

Editorial Members

Dr Shubhada Khirwadkar, Dr Urmila Dahake, Dr Jaya Shivalkar, Dr Manjusha Giri, Dr Prajakta Kaduskar

HEALTH CHECK-UP CAMP, NAGPUR

Total 8 health check-up camps were organized with the help of NGO's. Health check-up along with distribution of medicines and some rehabilitation equipment were made to the needy beneficiaries.

DISTRIBUTION OF MEDICINES AND ORTHOPEDIC APPLIANCES – CRUTCHES/WHEELCHAIRS, NAGPUR

Medicines and orthopedic appliances such as crutches or wheelchairs were distributed to the needy 28 patients admitted in Dr Viraj Shingade's hospital for TEV & Club foot corrections. Also some equipments for their rehabilitation were donated.

FREE SURGICAL CAMP FOR CLUBFOOT PATIENTS, NAGPUR

Free surgical camp for Clubfoot patients was organized at Dr Viraj Shingade's Hospital with some financial help from COMHAD UK. Surgical services were provided by Dr Viraj Shingade and one Plastic Surgeon Dr Choure. Total 450 patients were screened out of those 28 patients operated.

STATE LEVEL SPORTS COMPETITION FOR SPECIALLY CHALLENGED, NAGPUR

The State level sports competition for specially challenged children was held at Nagpur during PEDICON 2018 at venue with the help of Nagpur Municipal Corporation. Total 300 specially challenged children participated. The competitions were held for three consecutive days with inclusion of various sports such as athletics, running, racing etc. Expenses incurred for their stay and their prizes were born by COMHAD

COMMUNITY AWARENESS PROGRAMME RALLY ON DISABILITY CAUSED BY SICKLE CELL DISEASE AND ITS REMEDY

The programme was held in the form of a rally at Nagpur, MS, India with participation of about 1200 parents of children suffering from Sickle Cell disease, and other people from community and doctors. Messages of awareness were displayed on posters carried by the participants during rally.

Later on at API Hall of Government Medical College Nagpur MS India the participants were made aware of the disability caused by Sickle cell disease its remedy and its prevention, by the experts doctors with interactive deliberations.

WORKSHOP ON AUTISM – CHALLENGES & BEYOND

The workshop was held at Public Health Institute Hall Nagpur, MS, India, with the combined efforts of Mrs Jyoti Phadke Principal Samvedana School for Autism, Dr Urmila Dahake Developmental Pediatrician, Dr Jaya Shiwalkar Pediatric cum Adolescent councilor. The workshop was attended by about 150 beneficiaries such as parents of disabled child, school teachers, physiotherapist, neurologist, psychologist, developmental therapist and media reporters. The programme was highly appreciated by all and later on was published in local daily news-papers and was telecasted on local TV channels.

ADVANCED PHYSIOTHERAPY WORKSHOP ON SPINE

Advanced Physiotherapy Workshop on Spine was held on 2 nd September 2018 at 10 am at Madhukar Bhavan, RSS Sankul, Reshimbag, NAGPUR 440009. Inaugurated at the hands of Dr Viral Kamdar, Director Din Dayal Institute of Medical Sciences & Human Resource Development & Advisor to Hon'ble Shri Nitin Gadkariji, Union Minister Govt of India. The function was presided by International President Dr Uday Bodhankar. Guest of honour was Dr Umanjali Damke Director Physiotherapy College GMC Nagpur and Guest Faculty was Dr Rahul Chaudhari Musculoskeletal Physiotherapist Hallam University Sheffield UK at present practicing at Akola. Organizing Chairman was Dr Nawal Jaiswal and Organizing Secretary was Dr Roshan Bodhke. Delegates participating about 30 were from Physiotherapy colleges and practicing physiotherapist from Nagpur and all over Vidarbha. After completion of Workshop the Certificates were distributed at the hands of International President Dr Uday Bodhankar.Vote of thanks was presented by Dr Yashwant Patil Advisor COMHAD.

INTERNATIONAL CONFERENCE OF COMHAD 2018, 8th & 9th December 2018, Bengaluru, Karnataka, India.

On this auspicious occasion of Commonwealth Association of Health and Disability (COMHAD) is holding International Conference of COMHAD on 8th & 9th December 2018, in association with NIMHANS, RAMAIAH MEDICAL COLLEGE, IAP BENGALURU & KARNATAKA, UNICEF INDIA, DME, RGUHS The theme of the conference is

"Transforming Comprehensive Disability Care in Children from Policy to Practice"

I want to congratulate the organizers for their relentless hard work to make this conference a grand success.

Submitted by : Dr. Vasant Khalatkar,
Secretary General COMHAD
Reshimbag, Nagpur, 440009
M. S. INDIA
Mobile No. 0091 9823044438
Email: vasant.khalatkar@gmail.com;

FUTURE ROLE OF COMHAD

The new team should evolve new innovations and new ideas and new concepts in view of globalizations, change in global and individual economy, and entry of health insurance and dominance of drug companies.

Taking into consideration of all these factors and the original aims and objectives of COMHAD, following topics are finalized.

- To develop good Governance
- To develop strategies to raise funds
- To develop effective communication through COMHAD Newsletter
- To prepare the second edition of COMHAD Directory
- To appoint one fund raising officer
- To establish & strengthen net work & identify donors
- The team should define the role & responsibilities of each COMHAD Executive Member
- To establish strong COMHAD Chapters in all Regions of Commonwealth Nations

In future there will be two major programmes of COMHAD :

1. Perinatal Health Care including newborn care.
2. Preventive & Promotive Health Care for low and middle income group of the community in urban settings.

INTERNATIONAL CONFERENCE OF COMHAD 2018

PRE CONGRESS WORKSHOP - DATED 7TH DECEMBER

UNICEF SCIENTIFIC SESSION- DATED 8TH DECEMBER

SCIENTIFIC PROGRAMME - DATED 8TH AND 9TH DECEMBER

Pre-conference HANDS-ON Workshop

‘ Rehab - Cradle 2 Community ’

(Focused on challenges of Disabilities in children to all specialists, parents & teachers
Autism, Intellectual disabilities, Learning Disabilities, School failure, ADHD, Prevention of Disabilities)

On 7th Dec. 2018, 9am to 4pm, at Ramaiah Medical College, Bengaluru

* * *

Topics & Speakers

1. ***Early assessment & intervention***

   \- Dr Sundar Kumar(Pediatric Physio) , Dr Prarthana (Dev. Pediatrician) & Mrs Savita(Special Educator)
   Target audience- Health professionals

2. ***Management strategies in children with developmental disabilities (CP, Autism)***

   – Dr Divya Mohan (Pediatric Physio), Mrs Radhika Poovayya (Director, Samvad)
   Target audience- Health Professionals, Parents and Teachers

3. ***Play Therapy***

   – Dr Gauri Khandekar (Pediatric Physio) & Mrs Geeta Chandrasekharan (Pediatric Therapist & Teacher)
   Target audience – Health Professionals, Parents & Therapists

4. ***" Integration of psychiatric services with pediatric practice by consultation Liaison psychiatrists- Experiences of working together "***

   First speaker -Dr. Vyjayanthi. S

   Second speaker -Dr. Virupaksha HS

5. ***Atypical & typical presentations of specific learning disability - diagnosis, management and rehabilitation at a tertiary care Hospital***

   Speaker -Mohan Raju (Clinical Psychologist)

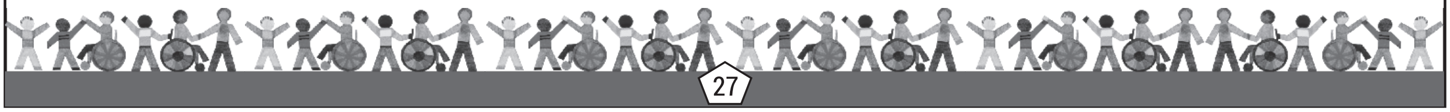
★ ★ ★

Workshop Registration fee is 500/- for Delegates only for workshop.

Workshop Regn. fee is 300/- for Parents, Teachers, Delegates registering for the COMHAD conference.

Contact Coordinator Dr Kirti 9686851063

(If there are many registrations, concurrent sessions.)



UNICEF SCIENTIFIC SESSION

Jointly organized by
COMHAD, UNICEF, CHPA, IAP, NIMHANS, DME, RGUHS,
Ramaiah Medical College Bengaluru

PROGRAMME

Saturday, 8th December 2018
Time: 09:00 am – 04:30 pm
Venue: Auditorium, Ramaiah Medical College, Bengaluru, India

Time	Topic	Speaker
09:00 AM – 10:00 AM	Registration & Breakfast	
10:00 AM – 11:00 Noon	INAUGURATION	Chief Guest : DEAN / VC
11:00 AM – 11:45 AM	Prevention of Nutritional Disability	Dr Yashwant Patil
11:45 AM – 12:30 PM	Community Based Rehabilitation	Dr Uday Bodhankar
12:30 PM – 01:15 PM	Early Childhood Development	Dr Mrudula Phadke
01:15 PM – 02:15 PM	Lunch	
03:15 PM – 04:30 PM	Convocation	

INTERNATIONAL CONFERENCE OF COMHAD 2018

Theme: Transforming Comprehensive Disability Care in Children from Policy to Practice

Dates: 8th& 9th December 2018

Scientific Program

SL NO	DATE: 08-12-2018 TIME	TOPIC	FACULTY
	08.30 AM - 09.00 AM	**REGISTRATION**	
1	09.00 AM - 09.20 AM	PREVENTION OF NUTRITIONAL DISABILITY	DR.YASHWANTH PATIL
2	09.20 AM - 09.40 AM	COMMUNITY BASED REHABILITATION	DR.UDAY BODHANKAR
3	09.40 AM - 10.10 AM	EARLY CHILDHOOD DEVELOPMENT	DR.MRUDULA PHADKE
4	10.10 AM - 10.55 AM	DR.PANDURANGI ORATION AUTISM SPECTRUM DISORDER CURRENT CONCEPTS AND MANAGEMENT	DR.SHOBA SRINATH
	11.00 AM –12.15 pm	**INAUGURATION**	
5	12.15 AM – 12.45 PM	HEARING IMPAIRMENT CLINICAL ASPECTS AND MANAGEMENT IN CHILDREN WITH DEVELOPMENTAL DISABILITIES	DR.VIJAYENDRA
6	12.45 PM- 01.15 PM	GENETICS AND NEURODISABILITY	DR.SRIDEVI HEGDE
	01.15 PM – 02.00 PM	**LUNCH**	
7	02.00 PM – 02.30 PM	NEURO IMAGING IN DEVELOPMENTAL DISABILITIES	DR.GURURAJ
8	02.30 PM – 03.00 PM	DISABILITIES IN LEPROSY AND STIGMA	DR.SUNIL KHAPARDE
10	03.00 PM – 03.45 PM	PANNEL DISCUSSION FROM INTEGRATION TO INCLUSION FOR CHILDREN WITH SPECIAL NEEDS,	MODERATOR URMILA DAHAKE SIX PANELISTS
11	03.45 PM -04.15 PM	RECENT ADVANCES IN PAEDIATRIC NEURO SURGERY	DR.RAVI GOPAL VARMA
12	04.30 PM – 05.00 PM	EARLY INTERVENTION PROGRAM FOR HIGH RISK NEW BORN ITS SUCCESS	DR.PRAKASH SANGHVI
13	05.00 PM – 06.30 PM	EXECUTIVE BOARD AND GENERAL BODY	
	07.00 PM ONWARDS	**CULTURAL PROGRAMME & DINNER**	

INTERNATIONAL CONFERENCE OF COMHAD 2018

Theme: Transforming Comprehensive Disability Care in Children from Policy to Practice

Dates: 8th& 9th December 2018

Scientific Program

SL NO	DATE: 09-12-2018 TIME	TOPIC	FACULTY
	08.00 AM - 09.00 AM	**REGISTRATION**	
1	09.00 AM - 09.30 AM	PREVENTING DISABILITY- COMMUNICATING WITH COMMUNITY	DR.RAJARAM PAGADALA, USA
2	09.30 AM - 10.00 AM	ADOLESCENCE AND INTELLECTUAL DISABILITY	DR.SHEKHAR SESHADRI
3	10.00 AM - 10.30 AM	SPEECH AND LANGUAGE DISORDERS IN CHILDREN WITH DEVELOPMENTAL	DR.PRATIBHA KARANTH
		DISORDER	
4	10.30 AM - 11.00 AM	EPILEPSY AND NEURODISABILITY	DR.SURESHRAO AROOR
5	11.00 AM - 11.30 AM	ENVIRONMENTAL ISSUES IN CHILDHOOD DISABILITIES	DR.H.PARAMESH
6	11.30 AM – 12 NOON	PERINATAL NEUROPROTECTION STRATEGIES FOR BETTER AND INTACT SURVIVAL OF INFANTS	DR.KARTHIK NAGESH
7	12 NOON- 12.45 PM	CEREBRAL PALSY PANEL DISCUSSION	DR.SHASHIKALA
8	12.45 PM – 01.15 PM	ATTENTION DEFICIT HYPERACTIVE DISORDER A.D.H.D	DR.YESASWINI KAMATH
	01.15 PM – 02.00 PM	**LUNCH**	
10	02.00 PM – 02.45 PM	LEARNING DISABILITY PANEL DISCUSSION	DR.NANDINI MUDKUR

Articles

INDEX

PREFACE

A disability is any continuing condition that restricts everyday activities. The Disability Services Act (1993) defines 'disability' as meaning a disability:

- Which is attributable to an intellectual, psychiatric, cognitive, neurological, sensory or physical impairment or a combination of those impairments
- Which is permanent or likely to be permanent
- Which may or may not be of a chronic or episodic nature
- Which results in substantially reduced capacity of the person for communication, social interaction, learning or mobility and a need for continuing support services.

Childhood disability may occur due to various causes such as antenatal, environmental, nutritional, genetic causes. As there is limited scope for improvement in disability once it occurs "PREVENTION" forms the most important aspect to overcome the burden of childhood disabilities.

The worst thing about disability is that ...

it is seen before the person is seen.

Section 1

Prevention of Childhood Disabilities

Disability Prevention: Communicating with Community

By

Prof. Rajaram Pagadala

MD (Obs.), DSS (Vienna), PhD (Pop. Studies),
Chancellor & Professor Emeritus
Sri Balaji Vidyapeeth University, Puducherry

Want to place Policies into Practice?

Begin with its prevention.

To practice begin Communicating with the Community.

I am a proponent to implement Disability Care taking steps to prevent in the first instance. Of course those born with or develop disabilities later in life must be taken care off. Policies drawn should be sound and effective and truly implemented. Therefore consider Health and Development as the determinants to prevent Disability. Involve women in the community who can make a difference. Therefore in Disability Prevention Programs must begin Communicating with the women in the Community. Women in the community can make a difference.

Transforming policies into practices for the care of the disabled indeed requires revolutionary thoughts and innovative ideas. Overhauling is required for the existing theoretical practices. Awareness must be created to transform the community to recognize the problem of disability in child and its resultant consequences.

Childhood Disability can have a lifelong impact on a person's physical, mental and emotional health and their social situation. It involves huge drain of resources. Therefore, responsibility lies with the government to realize the magnitude of the problem and redraft the policies to rebuild a comprehensive disability care program.

Role of the Family and Community Members:

Undertake preventive measures for those that are preventable. Adequate antenatal care will help prevent disabilities that might appear later in life. Minimising the disability can help them improve their physical and intellectual abilities to be able to communicate freely, earn their livelihood for a productive life. Those affected require special needs obligating early intervention. Members of the family and community can play a role in de-escalating the damage to the child and its family.

The Problem:

> ***A childhood disability is defined when: 'A person is unable to perform certain functions as well as most others" (WHO).***

It may be present from birth or develop after birth and may also be as a result of injury. Disability can have a lifelong impact on a person's physical, mental and emotional health andobviously will affect their social situation. They may require special needs requiring early intervention, in order to fully participate in everyday life. Therefore we must find out ways and means to help the disabled to live at least a part-quality of life.

The Solution:

It is the responsibility of parents to communicate with their disabled sibling and plan for early intervention. Authorities must communicate with family members and plan for managing the disabled and that will help enhanced rehabilitation. We must also communicate with community members to tolerate the disabled that are living in its vicinity to prevent escalating the damage to the child and its family.

Prevention: Role of the Obstetrician:

The responsibility of the obstetrician is to ensuring healthy lifestyle in their clients that will prevent developing disability later in the life . Many common birth defects can be prevented anticipating in antenatal care. Advising to lose weight, do regular exercises, vitamin supplements, especially folic acid, prescribing proper medications for medical conditions, and advising to avoid certain drugs that are known to cause birth defects. Emphasis must be laid on to quit Smoking and avoid even secondhand smoke . Alcohol and substance abuse are other habits that is not only destroying the health but is one of the factors that is producing disabilities in the society and ruining the lives.

Appropriate Genetic counselling will help prevent genetic disorders. Congenital or disorders that develop after birth like cardiovascular, neurological , skeletal etc. can be detected early in pregnancy or soon after the birth . The disability can be prevented or minimised by supplementing with medications and surgical interventions. Disorders that are detected intrauterine and that may not be compatible with life after birth pregnancy can be terminated. Thus the serious physical, intellectual, visual or auditory disabilities can be prevented or minimised.

It is equally important for early screening for detecting hearing, visual and disabilities that may be present and are likely yo miss. If detected early measures to treat rehabilitation may help them lead almost a normal life with the help of visual and hearing aids.

Politicization and Commercialization of Health, Development and Disability:

Today politicization and commercialization of program is widely seen in the name of promoting health and development and providing disability care.

Medical Education And Curriculum Changes Required In The Digital Age.:

In ancient times disabled were seen as 'deviant' and society was adopting unaccepted standards of life. However during industrial revolution humanitarianism appeared towards disabled. It is sad that current medical education model is lacking in emphasizing disability prevention and management.

During the past century significant changes were seen in medical education in USA, India and elsewhere. Abraham Flexner in USA suggested (1910) focusing on In India Bhore Committee Report (1946), on Health Survey and Development recommended integration of preventive and curative services for the Development of Primary Health Centres (PHC). Although there is development in passing Policy laws its implementation at the ground level is poor. When it comes to the implementation Primary Healthcare including Rehab services are shambles.

In this digital age management of the disabled with modern techniques of rehabilitation is though challenging and costly but it can bring happiness to the disabled and their families. There is an urgent need to re-examine curriculum and fix.

Health denotes the state of mind, body and spirit and development depends on physical and mental health. Disabled suffer a lot. Besides millions die out of childbirth. Unaccounted rates of disability remains a major challenge to health systems worldwide. Disability also affects Emotional and Developmental impairments that affects participation in day-to-day activity that in turn affects Quality of Life resulting in huge economic burden on the family and society.

Communication As A Tool:

I would, therefore, plead for communicating with family members on the subject of prevention of possible disability occurring in their offsprings. Also involve societal members tolerate the disabled and help provide rehabilitation for the unfortunate to live a quality of life. Importing and direct exchange of information ideas emerge for re I can emphatically say as an Obstetrician, that one should critically evaluate the pregnancy in antenatal period for the betterment.

Some major developmental disabilities can be prevented if anticipatory measures are taken in the antenatal period. Therefore I can emphatically say as an Obstetrician, that one should critically evaluate the pregnancy in antenatal period for a healthy outcome without major disabilities. Those born with minor disabilities can be put on early rehabilitation that help them live a productive life. Be able to communicate freely with their family and friends and can have an economic freedom life.

Preventive Programs for Disability is better than repairing or overhauling.

Educating the family and community on the legal, socio-economic aspects of disability is another tool that can bring awareness in the community for better dealing with disabled. Health Education and aiming at providing high quality perinatal program is key to successfully prevent and minimising the disability occuring. Infact sowing the seeds of health education in the schools will lay a healthy foundation for the future for better life. Politicians instead undertaking “pada yatra' for political reasons must periodically undertake mission to educate their constituents.

“Think Global, Act Local”.

The Future Problems:

Pub Culture: Fetal Alcohol Spectrum Disorders (Fasd):

Growing menace of 'Pub-Culture” will lead to increased incidence of Fetal alcohol spectrum disorder (FASD) that can lead to increased incidence of disability in future generations. Physical, mental, behavioral, and cognitive effects that can occur in individuals with prenatal alcohol exposure. Intrauterine and/or postnatal growth retardation including Microcephaly, Structural brain anomaly, Recurrent nonfebrile seizures etc. What one should also be worried is developmental, learning, and cognitive problems, including Behavioral problems and Social-emotional problems.

Children with disabilities are more likely to experience physical and sexual violence. dence of becoming violent is more in disabled than non-disabled.

Disability: Violence and Terrorism

The solution

Quality care during pregnancy and counselling on subjects like diet, tobacco and substance abuse are important. This can prevent prematurity, mortality and morbidity and complications arising from preterm pregnancies that can give rise to disability. Therefore regular contacts with health professionals throughout pregnancy is required to identify and manage risk factors. In pregnancy treating infections with antibiotics, injecting steroids, and taking care of the newborn help..

Steps for Primary prevention is to be taken by advising patients on alcohol tobacco etc. Prophylactic Folic acid, reduces the incidence of neural tube defects. Use of antibiotics will treat TORCH Infections, Children must be protected from exposure to Lead Poisoning.

But Most Importantly Reduce Poverty Levels:

Secondary prevention is to manage the obesity, hypertension, diabetes, medical disorders etc. by appropriate exercise, diet and medications. Tertiary prevention is aimed at achieving quality of life by attempting to reduce functional disability by all possible methods and machines.

Overall:

The objective should be to manage mothers suffering from medical and surgical problems. Birth complications, like accidental hemorrhage, obstructed labor, abnormal presentations and positions of the fetus leading difficult labor requiring manipulations can lead to mortality and developing disability later in the life of the child. Also prevent low birth neonatal jaundice and kernicterus.

QUALITY ADJUSTED LIFE YEARS (QALY):

Prevention of disabilities can help achieve higher standards of economic lifestyles leading to Quality Adjusted Life Years (QALY). Therefore ***Policies of Prevention of disabilities must be promoted.***

They are, after all, social determinants of keeping the community healthy.

The Changing Landscape of Disability in Childhood

The awareness on the healthcare, management and rehabilitation has changed tremendously during past 5o years or so. Government is doing its best and a vast majority of persons with disabilities are having a better quality of life for those who can have means and access for rehabilitative services.

The Constitution of India ensures equality, freedom, justice and dignity of all individuals. The Government policies of towards the welfare of persons with disabilities are seen in opening rehab institutions.

Emphasis on medical rehabilitation is replaced by social rehabilitation.

The Government of India has enacted three legislations for persons with disabilities viz. i. Persons with Disability (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995, which deals with the development of manpower for providing rehabilitation services. The focus of the policy is on Prevention of Disabilities, addresses the health needs of rural population, providing Assistive Devices, Disabled provided access to technical and higher and professional courses.

In way corridor for Economic Rehabilitation for Persons with Disabilities is opened, ensuring improved quality of life . Research in the field is also being extensively supported to address socio-economic and cultural context of disabilities.

The History of India's Disability Rights Movement

The Government of India realizing the difficulties faced by disabled enacted several laws for their welfare starting in 1970. However drastic changes were seen in 1990's protecting the fundamental rights of the disabled.

However realizing the drawbacks, for the first time survey of the difficulties of the disabled was carried out from 1981 census onwards.

Legal rights of the disabled in India is guaranteed under the constitution. There are laws ensuring Education, health, succession, Labour Judiciary, income tax etc. and several acts are Altering and converting conditions might help reap far-reaching

Therefore there is an urgent need for the society to assume responsibility and give women the due place they eserve. Recognize the assigned pivotal role, a woman is expected to play in the promotion of health and development and prevent disability. Consider women making a difference in achieving the expected goals.

The understanding of the role of the mother in the existing medical education model is lacking. There is an urgent need to re-examine curriculum and fix the problem.

Women from the family must be brought to forefront for delivering the preventive and rehabilitative care. It will also help reduce maternal and childhood mortality and morbidity.

Recommendations of The Abraham Flexner in USA (1910) were focus on the Family Health. Significant changes were introduced. While in India, The Bhore Committee Report (1946), on Health Survey and Development recommended integration of services for the Development of Primary Health Centres (PHC) was implemented partly but not being monitored. Although there is slow but sustained progress in Primary Healthcare Services, most of the PHCs remain in shambles.

The development of physical body depends on mental health. Any impairment of physical body may limit participation of day-to-day activity. Disability depends on body metabolic activity. It denotes the state of mind, body and spirit. If it fails it contributes towards economical loss.

The Future for the Disabled:

Disability management in this digital age with appropriate use of Artificial Intelligence (AI) methods might turn out to be rewarding.

Research in the development of 'cutting-edge cloud tools' is in it's advance stage of progress. The industry is waiting for the appropriate data on disability from the government agencies who are concerned with modernization in the management of disabilities for the welfare of the society. Therefore appropriate learning modules must be prepared and training is initiated anticipating arrival of the digital tools for the disability management.

THEREFORE, anticipate arrival of artificial intelligence, also called 'machine intelligence', is intelligence demonstrated by machines, in contrast to the natural intelligence displayed by humans and other Healthcare

Artificial intelligence is breaking into the healthcare industry by assisting doctors. According to Bloomberg Technology. Robotic Systems is another advance that is helping people with disabilities.

Last Word as A Teacher:

There is a difference between an Educator, Communicator and a Teacher. One must understand the differences between the. We need critical educators who must be able to provide education that must be professional. A communicator must be able to convey information, exchange information and explore ideas. A Communicator is one who believes that the goal of education, communications and creating conducive atmosphere for helping to gain health and development for the able and disable.

A Communicator must be gifted to be an effective communicator.

And a Teacher is One who should learn, learn and learn and teach only to learn.

In future I expect #MeThePhysicallyChallenged

Environmental Risk Factors in Children with Airway Disability

Dr. H Paramesh
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Pediatric Pulmonologist and Environmentalist

Environmental hazards are among the health concern globally and locally. There is scant learning and its relation to illness.

Environmental causes of illness may not always be apparent, diagnosis can be missed unless history of exposure is obtained and more so if the illness is a typical or unresponsive to treatment

The biological programming is an accepted reality and contributes Respiratory, Cardiovascular, Cognitive development. The early interventions of mother and fetus might alter the course of development and health in children and adults. Nutritional issues might explain the relationship but needs interventional studies with robust data to make a policy.

The climate change will be the defining issue for health system is the 21st century Allergic Airway diseases (Asthma) is a global health epidemic respiratory disability and more than 1 billion population is affected and it is anticipated to affect 4 billion population in 2050. Outdoor air pollution causes 3.7 Million deaths and indoor air pollution 4.3 million deaths globally. In addition they are the major socio economic emotional burden to the country. Climate change will wider the health equity gap within and between countries. Adaptations to climate change is essential in primary prevention of health issues

During the talk the issues will be highlighted with global, Indian and local facts and role of nutrition's in prevention

One who knows what to eat, how to eat don't get disease. Who ever is the father, under and malnutrition is the mother of the diseases. Indian Adages.

Let food be thy medicine and medicine be thy food. Hippocrates.

◆

DISABILITY
Global Perspective and Global Picture

Dr M Mahadeviah

Pediatric developmental neurologist,
Bangalore

Disability be it childhood or adult is one of the most neglected issue certainly in the developing low and middle income countries as well as the developed country with the improvement in the survival of children in the low and middle income countries because of reduction in mortality and the campaign to eradicate HIV/AIDS, Tuberculosis, malaria and malnutrition. There has been a dramatic improvement in survival of children below five years of age.

The present estimate of survivors in low and middle income countries reaches 200 million who have developmental delays of disability because of the primary condition. There are many children with cerebral pals, intellectual disability and at a later stage educational backwardness.

To significantly reduce the associated co morbidity the health and social service measures have to improve as well as the medical services.

Secondary prevention by early identification of disability and rehabilitation improving the health service, living condition, social environment.

The scenario in developed countries unfortunately even though better is not very rosy. Reports from USA centres for disease control 1997 to 2008 was 13.7% . During this period there has been an increase of 17.1%. In a decade there has been 1.8 million children.

One can gather from these statistics problem of disability in the world is beyond imagination and is never ending. With limited resources, especially in the developing nations there will be millions of children with disabilities.

The current scenario in early diagnosis of developmental disabilities

Low and middle income countries

Priorities are acute illnesses such as infectious diseases, physical growth, immunisation, nutrition and other common childhood diseases as tuberculosis, gastroenteritis etc. Very little is taught about the early identification of developmental delay. Routine developmental screening is not a priority.

Developed countries such as USA

Developmental screening was introduced as part of paediatrics training only in early seventies and is strongly backed by American Academy of Pediatrics. Many of the studies in USA indicate only 20 to 25% of children receive periodic developmental screening.

What is happening in India? Is pathetic childhood disability group in the Indian Academy of Paediatrics was started in early 80's.

A liberal estimate of paediatricians actively involved and interested would be 1000 out of 30000 plus.

It is indeed a great disservice to our children and their parents if we do not provide the best of service by early identification and rehabilitation for the child to attain its full potential.

Early identification provides opportunity for parent education and support. Training the family will have considerable influence on parent child interaction, teaching, carrying, bathing, teaching activities of daily living. Specially in developing countries parents should be made as active partners.

* * *

Community-based rehabilitation (CBR)

By

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The early years

The declaration of Alma-Ata in 1978 was the first international declaration advocating primary health care as the main strategy for achieving the World Health Organization's (WHO) goal of “health for all”. Primary health care is aimed at ensuring that everyone, whether rich or poor, is able to access the services and conditions necessary for realizing his/her highest level of health.

Following the Alma-Ata declaration, WHO introduced CBR. In the beginning CBR was primarily a service delivery method making optimum use of primary health care and community resources, and was aimed at bringing primary health care and rehabilitation services closer to people with disabilities, especially in low-income countries. Ministries of health in many countries (e.g. Islamic Republic of Iran, Mongolia, South Africa, Viet Nam) started CBR programmes using their primary health care personnel. Early programmes were mainly focused on physiotherapy, assistive devices, and medical or surgical interventions. Some also introduced education activities and livelihood opportunities through skills-training or income-generating programmes.

In 1989, WHO published the manual *Training in the community for people with disabilities* to provide guidance and support for CBR programmes and stakeholders, including people with disabilities, family members, school teachers, local supervisors and community rehabilitation committee members. The manual has been translated into more than 50 languages and still remains an important CBR document used in many low-income countries. In addition, *Disabled village children: a guide for community health workers, rehabilitation workers and families* made a significant contribution in developing CBR programmes, especially in low-income countries.

During the 1990s, along with the growth in number of CBR programmes, there were changes in the way CBR was conceptualized. Other UN agencies, such as the International Labour Organization (ILO), United Nations Educational, Scientific and Cultural Organization (UNESCO), United Nations Development Programme (UNDP), and United Nations Children's Fund (UNICEF) became involved, recognizing the need for a multisectoral approach. In 1994, the first CBR Joint Position Paper was published by ILO, UNESCO and WHO.

Twenty-five year review of CBR

In May 2003, WHO in partnership with other UN organizations, governments and international ongovernmental organizations including professional organizations and disabled people's organizations, held an international consultation in Helsinki, Finland, to review CBR. The report that followed highlighted the need for CBR programmes to focus on:

- Reducing poverty, given that poverty is a key determinant and outcome of disability
- Promoting community involvement and ownership;
- Developing and strengthening of multisectoral collaboration;
- Involving disabled people's organizations in their programmes;
- Scaling up their programmes;
- Promoting evidenced-based practice.

CBR Joint Position Paper

In 2004, the ILO, UNESCO and WHO updated the first CBR Joint Position Paper to accommodate the Helsinki recommendations. The updated paper reflects the evolution of the CBR approach from services delivery to community development. It redefines CBR as **“**a strategy within general community development for the rehabilitation, poverty reduction, equalization of opportunities and social inclusion of all people with disabilities” and promotes the implementation of CBR programmes “…through the combined efforts of people with disabilities themselves, their families, organizations and communities, and the relevant governmental and non-governmental health, education, vocational, social and other services”.

The Joint Position Paper recognizes that people with disabilities should have access to all services which are available to people in the community, such as community health services, and child health, social welfare and education programmes. It also emphasizes human rights and calls for action against poverty, and for government support, and development of national policies.

CBR today

CBR matrix

In light of the evolution of CBR into a broader multisectoral development strategy, a matrix was developed in 2004 to provide a common framework for CBR programmes . The matrix consists of five key **components** – the health, education, livelihood, social and empowerment components. Within each component there are five **elements**. The first four components relate to key development sectors, reflecting the multisectoral focus of CBR. The final component relates to the empowerment of people with disabilities, their families and communities, which is fundamental for ensuring access to each development sector and improving the quality of life and enjoyment of human rights for people with disabilities. CBR programmes are not expected to implement every component and element of the CBR matrix. Instead the matrix has been designed to allow programmes to select options which best meet their local needs, priorities and resources. In addition to implementing specific activities for people with disabilities, CBR programmes will need to develop partnerships and alliances with other sectors not covered by CBR programmes to ensure that people with disabilities and their family members are able to access the benefits of these sectors. The Management chapter provides further information about the CBR matrix.

CBR principles

The CBR principles are based on the principles of the Convention on the Rights of Persons with Disabilities (1) outlined below. In addition, two further principles have been proposed which are: empowerment including self-advocacy (see Empowerment component), and sustainability (see Management chapter). These principles should be used to guide all aspects of CBR work.

Moving forward

The CBR guidelines provide a way forward for CBR programmes to demonstrate that CBR is a practical strategy for the implementation of the Convention on the Rights of Persons with Disabilities (1) and to support community-based inclusive development.

CBR is a multisectoral, bottom-up strategy which can ensure that the Convention makes a difference at the community level. While the Convention provides the philosophy and policy, CBR is a practical strategy for implementation. CBR activities are designed to meet the basic needs of people with disabilities, reduce poverty, and enable access to health, education, livelihood and social opportunities – all these activities fulfil the aims of the Convention.

CBR programmes provide a link between people with disabilities and development initiatives. The CBR guidelines target the key sectors of development that need to become inclusive so that people with disabilities and their families become empowered, contributing to an inclusive society or 'society for all'. As community involvement is an essential element of development, the guidelines strongly emphasize the need for CBR programmes to move towards involvement of the community.

CBR programmes make a difference

CBR can help to ensure that the benefits of the Convention reach people with disabilities at the local level through:

- **familiarizing people with the Convention** – actively promoting the convention and helping people to understand its meaning;
- **collaborating with stakeholders** – working with nongovernmental organizations, including disabled people's organizations and local governments, to implement the Convention;
- **advocacy** – engaging in advocacy activities which aim to develop or strengthen anti-discrimination laws and inclusive national and local policies relating to sectors such as health, education and employment;
- **coordinating between local and national levels** – promoting and supporting dialogue between local and national levels; strengthening local groups or disabled people's organizations so that they can play a significant role at local and national levels;
- **helping to draw up and monitor local action plans** – contributing to the development of local action plans that have concrete actions and the necessary resources for incorporating disability issues into local public policies and achieving intersectoral collaboration;

- **programme activities** – implementing activities which contribute to making health, education, livelihood and social services accessible to all persons with disabilities including those who are poor and live in rural areas.

Research and evidence

As reflected in these guidelines, CBR is a multisectoral strategy for the inclusion of people with disabilities and their families in development initiatives. This poses challenges for researchers, and as a result only limited evidence is available about the efficiency and effectiveness of CBR. However, a body of evidence has accumulated over time, from formal research studies, diverse experiences of disability and CBR, evaluations of CBR programmes, and the use of best practices drawn from similar approaches in the field of international development.

CBR research relating to low-income countries has increased dramatically in recent years , both in quality and quantity. Based on published reviews of CBR research and other literature, rather than individual studies, the following can be noted:

- CBR-type programmes have been identified as effective and even highly effective outcomes include increased independence, enhanced mobility, and greater communication skills of people with disabilities . There are also anecdotal indications of the cost–effectiveness of CBR
- Systematic reviews of research on community-based approaches in brain injury rehabilitation in high-income countries indicate that such approaches are at least as effective or more effective than traditional approaches, and have greater psychosocial outcomes and a higher degree of acceptance by people with disabilities and their families
- Livelihood interventions associated with CBR have resulted in increased income for people with disabilities and their families and are linked to increased self-esteem and greater social inclusion.
- In educational settings, CBR has been found to assist in the adjustment and integration of children and adults with disabilities
- The CBR approach has been found to constructively facilitate the training of community workers in the delivery of services
- As similar research in high-income countries has shown, CBR activities have positive social outcomes, to influence community attitudes, and to positively enhance social inclusion and adjustment of people with disabilities.

Prevention Of Intellectual Disability

By

Prof. M.S.Rawat

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- Empower baby girls
- Iron folic tablets to all adolescent girls
- Avoid consanguinous marriages
- Avoid teen marriages and pregnancies
- Routine immunization with emphasis rubella, measles, mumps, pneumococcal and H. influenzae.
- Safe sexual practices to prevent sexually transmitted diseases.
- Planning pregnancy between 22 to 28 years of mother
- Folic acid supplementation to be started from the day pregnancy is planned to 12 weeks after conception.
- Prevent antenatal injuries at home and outside.
- Wear seatbelts and helmets on vehicles
- Remember road is not a race course
- Public awareness of adverse effects of alcohol, tobacco and drug abuse of medicines on the developing fetus.
- Have a balanced diet, adequate rest, activity and yoga. Diet should consist of legumes, leafy vegetables, cooked eggs, fruits, lean meat, cereals, potato and cooked fish.
- Avoid high mercury fish (swordfish, shark, king mackerel), raw fish, raw eggs, unwashed fruits, raw milk, raw sprouts and organ meat rich vit. a and iron.
- Take foods rich in vit. B6 and B12 to prevent low birth weight babies.
- Take food to your satiety.
- Take iron folic acid tablets from the third trimester to first three months after delivery.

- Regular check ups for pregnancy monitoring and complications.
- Always prefer hospital deliveries. Hospital should ideally be equipped with neonatal services.
- Get admitted in hospital as soon as labour pain starts.
- Keep the newborn warm.
- Look for labour room emergencies.
- Use oxygen <40 % to prevent oxygen toxicity.
- No pre lacteal feeds
- Breast feeding within 30 to 60 mins after birth.
- Exclusive breast feeds till 6 months of age
- Newborn screening for thyroid function, genetic disorders, visual and hearing defects.
- Thick complementary feeds after 6 months of age.
- Early rational treatment for illnesses.
- Prompt and timely referral in an ambulance well equipped and attended by para medics.
- Counselling for health care, contraception, diet, immunisation, physical activity and emotional support.
- Teach traffic signals and follow road rules.
- Preventing poisoning in children by locking drugs at home.
- Immunize pets.
- Teach basic life support
- Action to minimize pollution and climate change.

Section 2

Nutritional Disability

Prevention of Nutritional Disability

Dr Yashwant Patil

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National Executive Board Member IAP 2002 to 2011, State President – NNF MS Chapter 2007 to 2009
Executive Member Infectious Disease Chapter- IAP 2006 & 2007,State President – IAP Maharashtra 2000

INTRODUCTION

Nutritional disability is generally caused by lack of nutritional components. Common nutritional disabilities are under-nutrition causing SAM, MAM, stunting, wasting, nutritional anaemia, Vitamin deficiency disorders and over-nutrition causing obesity. All these conditions come under commonly known term as Malnutrition.

The consequences of nutritional disabilities/malnutrition are higher child mortality and morbidity; lower cognitive development, hence lower returns from investments in education; lower productivity leading to a higher burden to the health system; slow national progress; economic loss of about 3% of Gross Domestic Product in developing countries (Recent World Bank Report).

These consequences are more when there is malnutrition during most critical period of "The 1000 days Window of Opportunity" (Pregnancy & first 2 yrs of life). Stunting & wasting have origins in foetal growth & maternal nutrition.

EPIDEMIOLOGY OF NUTRITIONAL DISABILITY

MORBIDITY

According to Global Nutrition Report 2017 (140 countries studied), almost every country in the world now faces a serious nutrition-related challenge, whether stemming from under-nutrition or obesity. In India 38% of under-5 children are affected by stunting & 21% of under-5 children are defined as 'wasted' or 'severely wasted'. India had the largest number of women impacted with anaemia among globally affected 614 million women aged 15-49 yrs. 16 per cent of adult men & 22 per cent of adult women are overweight. The rate of exclusive breastfeeding of infants under-6 months in India is 65 %.

MORTALITY

Mortality in under-5 in India is 48 per 1000 live births (2015). Malnutrition contributes to more than one-third (33%) of all the deaths of under-5 children. Its contribution to child deaths is even higher during first 6 months of life when mortality is highest. Mortality can be avoided with starting BF within one hour and exclusive BF during first 6 months.

Thus, nutritional disability jeopardizes children's survival, health, growth & development & slows national progress. The impact is therefore very serious & long lasting and requires immediate attention to change our present perspective about nutrition. There is no simple solution of to the problem of malnutrition as it is the outcome of several factors. Hence many types of action with coordinated approach are necessary to prevent it. These are adapted from 8th FAO/WHO Expert Committee on nutrition for the prevention of malnutrition. There are **Primary prevention, Secondary prevention and Tertiary prevention** for malnutrition.

PRIMARY PREVENTION with Health promotion and Specific protection

Health promotion includes – Care of Adolescent Girls, Health Education to Mothers, Promotion of breastfeeding (BF) / complementary feeding (CF) / Family Pot Food, Development of Low-cost CF, Measures to improve Family Diet, Distribution of Supplements- Vit A, Iron+Folic acid, Nutritional Education to Promote Correct Feeding Practices, Home Economics, Family Planning & Birth spacing, Family Environment.

Specific protection includes – Child Diet containing specific & energy rich foods, Immunization of children, Fortification of food, Growth Monitoring.

Secondary Prevention with Early Diagnosis & Adequate Treatment

This includes – Periodic nutrition surveillance, Early diagnosis of any lag of growth, Early diagnosis and treatment of infection including diarrhoea, Development of program for early rehydration of children with diarrhoea, Development of Nutrition Supplementation feeding programme and Regular deworming of school and preschool children.

Tertiary Prevention with Nutritional Rehabilitation

The concept of Nutritional Rehabilitation was first originally propounded by Bengoa in 1955. In India Nutritional Rehabilitation Centre - NRC has been launched under collaborative scheme of UNICEF and Govt. of India. “To get well & to keep well” are the basic ideas of rehabilitation. NRC is a short stay home for children with SAM along with the primary caregivers / mothers.

Services provided at NRC are Primary health care treatment & management, Provision of Intensive feeding with nutritional support to recover lost weight, Development of emotional & physical stimulation, Capacity building of primary care givers/mothers through, counselling on nutritional education and counselling on continuous behavioural change activities.

Conclusion

Nutritional disability is the outcome of several factors, the problem can be solved by taking actions at various levels. It requires a coordinated approach of many disciplines such as Nutrition, Food technology, Health Administration, Health Education and Marketing, Formal education to increase literacy, Job generation, Agriculture, Applied Nutrition program etc. As per World Health Assembly, to reach Global Nutrition Targets level for 2025, India on average must accelerate efforts on reduction of Stunting, Wasting, Anemia and Low Birth Weight. Sustainable Development Goals (SDG) is to end Hunger by 2025 & end all forms of Malnutrition by 2030.

Malnutrition and Disability: the cause as well as effect

Dr Urmila Dahake

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The fields of malnutrition and disability are closely interrelated. Countries with high levels of malnutrition and nutrient deficiency also often report higher rates of disability and developmental delay. There are several important areas of overlap and influence: malnutrition can cause or contribute to a variety of different disabilities; disabilities can cause or contribute to malnutrition.

Malnutrition causing and contributing to disability

1. **Maternal malnutrition**

   Maternal malnutrition can affect the development of the fetus, cause intra-uterine growth delay and increase the risk of the infant developing impairments. Micronutrients such as Folic acid, Iron, Iodin, Vitamin D deficiency in mother have serious impact on developing fetus leading to diseases such as Neural tube defects, cognitive impairement, IUGR, preterm deliveries respectively. Maternal B_{12} deficiency (commonly caused by untreated pernicious anaemia or a strict vegan diet) with consequently low levels in breast-milk can lead to developmental delay and neurocognitive impairment. Therefore, it is important to identify and treat maternal malnutrition, prevention being the gold standard.

2. **Child nutrition**

   Infants and young children who are malnourished as defined by underweight (low weight-for-age) and stunting (low height-for-age) are also more likely to screen positive for disability. Macronutrient and micronutrient deficiencies are risk factors for physical, sensory and cognitive impairment. Following are the diseases due to specific nutritional deficiencies

   i. Vit A deficiency—Blindness
   ii. Vitamin B_1 (thiamine) deficiency-- Beri-Beri
   iii. Vitamin B_3 (niacin) deficiency --Pellagra
   iv. Vitamin B_6(pyridoxine) deficiency—Pyridoxine dependent seizures
   v. Iodine deficiency -- Affects the cognitive development of young children, severe and early deficiency effects are irreversible
   vi. Iron deficiency--Cognitive, learning and behavioural impairment

Childhood macronutrient malnutrition often manifests as underweight or wasting and also impairs immune system function and renders a child more susceptible to infection such as meningitis, pneumonia. Hearing loss because of meningitis or malnutrition is another possible malnutrition linked disability.

3. **Antinutrients:**

   Affecting all ages they are toxins in the food arising during times of food shortage, improper cooking. Ingestion can cause irreversible neurological damage for eg. Neurolathyrism.

<u>Disability leading to malnutrition</u>

Disabilities placing an individual at particularly high risk of nutritional deficiency include cerebral palsy, craniofacial anomalies (cleft lip and/or palate) and the many genetic syndromes such as Down syndrome and Pierre Robin sequence which are associated with, for example, oral–motor feeding and swallowing problems. A cleft palate affects sucking, chewing and feeding. Some 90% of children with cerebral palsy have difficulty feeding, which can result in malnutrition, poorer health status and sometimes even early death.

Malabsorption of nutrients is also common in children with certain conditions, including cystic fibrosis. Other children with certain types of genetic impairments (e.g. Down syndrome, Sotos syndrome) or intellectual or mental health disabilities may have eating disorders which place them at greater risk of becoming overweight. Certain nutrients such as casein and gluten are proposed as cause for Autism Spectrum Disorder.

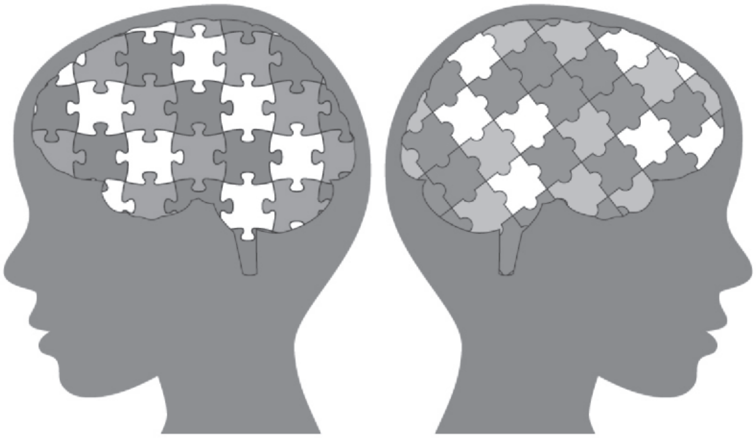
To conclude Nutrition plays important role in preventing disability as well as improving survival and quality of life in children with established disabilities. Hence it's the role of all pediatritians to **<u>ANTICIPAE, IDENTIFY AND TREAT NUTRITIONAL DECICIENCIES AS EARLY AS POSSIBLE.</u>**

PREFACE

Neurodevelopmental disorders are “a group of heterogeneous conditions characterized by delay or disturbance in the acquisition of skills in a variety of developmental domains, including motor, social, language, and cognition” (Thapar, Cooper & Rutter, 2016).

The great diversity of neurodevelopmental disorders is reflected in the fact that some of those affected show specific deficits (e.g., difficulty maintaining focus) that do not prevent them from having an independent and fulfilling life. Others, however, will need lifelong assistance with basic living skills necessary for independent living, such as the ability to walk and feed oneself.

Understanding Early child development is crucial for early identification and early intervention of these disorders.



Section 3

Neurodevelopmental Disorders

Early Childhood Development

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As a Pediatrician, one learns developmental milestones of a child in absolute details and it forms an important part of clinical examination of a child. But, today we shall discuss early childhood development (ECD) from a different perspective.

WHO, UNICEF, Lancet series 2016 & Govt. of India have focused on ECD in the past few years.

In fact, early childhood development has not only become an aim but also a requisite for achieving many sustainable development Goals (SDGs) no. 1-5, 10,16 and 17.

Growth which involves increase in physical size and development which means maturation of function are two important goals to be reached by an individual right from conception onwards. It is the altered growth and development specially due to nutritional insults in various stages of life that leads to irreversible consequences which we need to tackle urgently. It is estimated that 43% of the world's children under 5 years are stunted, live in extreme poverty and the same figure for sub Saharan Africa, Asia is around 66%. It is imperative to focus on this issue at the global level. Child development includes multisectoral policies and requires substantial investment. It is a maturational process resulting in an ordered progression of perceptual, motor, cognitive language, socioemotional and self regulation skills.

Multiple factors influence the acquisition of these skills and they require a life cycle approach as we know that the cycle of stunting, malnutrition is intergenerational. During the course of life, nutrition of the adolescent girl, nutrition in peri-conceptional period, antenatal period, at delivery, then optimum IYCF practices with early initiation (within 1 hour) and exclusive breast feeding for 6 months, correct complementary feeding are necessary. **Thus, these are critical windows of opportunity**. They are -

1) Adolescent
2) At the time of conception.
3) 1000 days i.e. from conception through 270 days of pregnancy and 730 days i.e. first 2 years of life.

All this is important for good child development. But only this is not enough. Multiple factors influence motor development, acquisition of cognitive skills. They are collectively called 'Nurturing care'.

Following are the domains of nurturing care –

1) Health
2) Nutrition
3) Responsive caregiving
4) Security & safety
5) Early learning

Evidence now shows that it is the critical window periods where these nurturing care practices have to be followed by all stakeholders like health workers, parents, family members & care givers. Details of each of the domains are briefly elucidated as below :

1) Health – adolescent health
   maternal health
   Immunisation,
   illness in child

2) Nutrition –
   Concept of 1000 days
   a) In utero from conception to birth.
   b) Birth to 2 years
   c) 3 to 5 yrs or 8 yrs

   adolescent
   maternal
   fetal
   brain growth
   cognitivitive development
   mother's wt gain
   BMI
   Breast feeding
   Mother's attitude
   Stimulation
   Complementary feeding

3) Child protection - Security, safety, abuse, toxins, NAI, sexual insults, smoking, tobacco.

4) Responsive stimulation - Care givers behavior, responsive feeding, responsive care giving. This aspect is not included in any national programmes. Now it should be a part of ANC, HBYC, RBSK, Immunization etc.

5) Early learning - Toys, story telling, music.

Failure to achieve any of these results in children and then adults with limited development, inadequate intellectual potential, low wages & earning and therefore, perpetuating the cycle of intergenerational nutritional insults & poverty. Therefore, all Pediatricians and healthcare workers need to know about early childhood development in great details and should convert this knowledge into practice.

Early Intervention Program For High Risk New-born And Its Success.

Dr. Prakash Sanghavi
International Director :COMHAD UK

High risk newborns, extreme premies, SGA babies, IUGR babies are still facing higher degree of morbidity in developed as well as in developing countries . In last three decades with the advancement in medical technology mortality in these babies have gone down substantially. One third of these still suffer from severe neurological and congnitive developmental issues. These babies also have vision and hearing abnormalities . One of the remedy is early prediction and intervention .

Early intervention is a systematic and structured activity designed to remediate developmental problems or incorrect patterns that may be experienced in high risk new-born. The program is individualized to meet the specific needs of each baby and to help all infants to reach growth milestones in every area of development. Early intervention helps in each of the four main areas of development: gross motor and fine motor, language, social development and self-help skills.

Early intervention program are a range of targeted services to help new-born who are at risk of developmental delay or specific health conditions. Different types of specialist work with these new-born. Providing services early helps new-born to catch up and increase their chances for success in overall development.

In India comprehensive assessment tools that focus on acquisition of motor milestones are used in monitoring programs for high risk infants. There is not much published evidence on the use of motor tools that measure quality of movement performance except the one published on the use of infants Motor Screen tool in early intervention program for high risk infants. A recent Cochrane review has shown that earlyintervention programs for preterm infants have a positive influence on the cognitive outcomes. Large community early stimulation programs have shown that efficacy was greatest with programs involving both the parents and the baby.

NICU incumbent's especially preterm and low birth weight infants who are at risks for poor developmental outcomes due to variety of risk factors. Research has shown significant positive effects of NICU's early intervention on mortality and medical health including Kangaroo Care and Music Therapy. It also empowers parents to manage their own needs and the needs of their neonate while the neonate is admitted in NICU and also after the discharge from the hospital.

Recent scientific evidence shows that early experiences shape our lives by affecting the way the young brain develops. What happens to us in the early years has a major effect on our health and social development right through to adulthood. Hence it is emphasized that we should be increasingly involved in regular evaluation of high risk infants and start early intervention programs to prevent long-term functional disability. We should also address the issues with the quality of movement rather than only acquisition of infants' stable health condition. Hence longitudinal follow ups at regular intervals are vital in management of high risk new-born.

This is one of the major hurdles in clinical practice and requires multi-disciplinary approach and needs a specialised team consisting of Perinatologist, Neonatalogist, Neurologist, Occupational therapist, Psychologist, Neonatal Special Nurse, Social health worker, and counsellor. We need to have such teams at every district level to make a difference at grass root level .

Neuroplasticity, Neurorecovery and Neurorehab

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Neural plasticity is the ability of the central nervous system (CNS) to change and adapt in response to environmental cues, experience, behavior, injury or disease. Neural plasticity can result from a change in function within a particular neural substrate in the CNS through alterations in synaptic strength, neuronal excitability, neurogenesis or cell death. Changes in the function of a neural substrate can then alter behavior secondary to environmental influences such as experience, learning, development, aging, change in use, injury or response to injury such as unmasking due to the loss of surround inhibition with reduced afferent input. Behavioral changes can also result from compensation, when residual neural substrate(s) are used to perform impaired functions, as may occur at some point during recovery. Neural plasticity may also alter the function of the original neural substrate used to produce a behavior through neuronal sprouting and dendritic growth. The content of the lecture is elucidating how plasticity can be modified to induce functional improvement in patients with CNS lesions.

* * *

"No effort that we make to attain something beautiful is ever lost. Sometime, somewhere, somehow we shall find that which we seek. I have so much that I want to do. I hate wasting time."

- Dr. Stephen Hawking

WHY AUTISM?

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Why Autism

1% of World Population. In India high prevalence of 1 in 65 children 2-9 years of age. The prevalence has doubled in last decade.

It is very unique in nature, because an apparently normal looking child with so many abilities and skills is not functioning in a social setting, multiple limitations on schooling & adult capital.

When assessed on a developmental scale they show total lack of uniformity in different areas of development.

These children have to be diagnosed on the basis of clinical suspicion and assessed by using autism specific scales.

Children diagnosed with ASD at 30 months or younger were more likely to have a change in classification from ASD to non-ASD than children diagnosed with an ASD at 31 months or older.[1]

It is in this backdrop we follow the concept of "LABELLING TO ENABLING"

What is Autism?

DSM-5 [2] **(A)Persistent Deficits in Social Communication and social interaction across multiple contexts**
1. Deficits in social-emotional reciprocity.
2. Deficits in nonverbal communicative behaviors used for social interaction.
3. Deficits in developing, maintaining, and understanding relationships.

(B) Restricted, Repetitive Patterns of Behavior, Interests, or Activities, -
1. Stereotyped or repetitive motor movements, use of objects, or speech .
2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior .
3. Highly restricted, fixated interests that are abnormal in intensity or focus .
4. Hyper- or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment.

(C) Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities

(D).Symptoms together limit and impair everyday functioning.
Currently, or by history, must meet criteria A, B, C, and D

Specify if- With or without intellectual impairment
Associated with known medical, genetic cond.
Another NDD, behavioral or mental disorder.

Severity-Level 3-requiring very substantial support
Level 2-requiring substantial support
Level 1-requiring support

Children at Higher Risk: Detail history and developmental assesment
Siblings of children with ASD: 10 x increased risk, Premature Infants, Comorbid Genetic Syndromes: e.g. Fragile X syndrome, Tuberous Sclerosis, Prenatal Exposures e.g. Valproic acid.

Red Flag signs for communication
Decreased use of non-verbal behaviour during communication
Does not babble by 1 year of age
Does not respond to name
Does not point to objects or people by 1 year of age
Does not make meaningful gestures by 1 year of age
Does not speak one word by 16 months
Does not combine two words by 2 years
Speech not understandable by 24 months
Loss of language or social skills at any age.

Red flag signs for social functioning
Poor eye contact
Doesn't smile, in reciprocation
Doesn't seem to know how to play with toys
Excessively lines up toys or other objects
Is attached to one particular part of the toy or object
Absence of joint attention
Does not share enjoyments, interests or achievements with other people.

Differential diagnosis-
Rett syndrome, Selective mutism,Intelectual disability,Schizophrenia, ADHD, TICS.

Diagnosis
1.History- (Pre-natal, Peri-natal, Developmental & Family),
2. GOI Gazette notification2016
   INCLEN-Screening
   ISAA- Certification
3. Psychological tests-(M-CHAT-R, CARS,DSM-5, ADI-R,ADOS)
4. Audiological Evaluation-BERA,
5. Karyotyping, Microarray-CGH

Primary goal of treatment

Maximize the child's functional independence (ADL) and improve quality of life
Facilitating development and learning,
Promoting socialization,
Reducing maladaptive behaviors,
Educating and supporting families.
Medications have not been proven to correct the core deficits of ASDs

Intervention- Multidisciplinary [4]

My team comprises of Psychiatrist, Neurologist, Rehab nutritionist, Speech therapist, Occupational therapist, Psychologist, Special educator
Speech therapy, Behavior modification, Sensory integration, Promote socialization, Dietary modification
Medicinal intervention for comorbidities.

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Attention Deficit / Hyperactivity Disorder (ADHD) in Children

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Abstract

Attention Deficit/Hyperactivity Disorder (ADHD) is the commonest behavioral disorder in children. It is characterized by attention deficit, impulsivity, and hyperactivity. ADD is without hyperactivity. ADHD begins in childhood and often persists into adulthood. The exact etiology is unknown; genetics plays a role, but major etiologic contributors could be environmental.

Abnormalities in the front striatal brain circuitry and possible hypo functioning of dopaminergic pathways are apparent in ADHD, and are consistent with the benefits obtained by the use of psychostimulants like methylphenidate.

Introduction

Attention Deficit/Hyperactivity Disorder (ADHD) is a combination of neuropsychiatric symptom clusters that emerge in childhood and often persist into adulthood.[1] ADHD is the most prevalent behavioral disorder in children and frequently its symptoms are commingled with learning problems, oppositional conduct, and depression, which altogether compound the family's emotional burden[2].

A condition in children somewhat resembling ADHD was first described by Still in 1902. He discussed 43 cases of children with aggression, defiance, emotionality, limited sustained attention, and deficient rule-governed behavior. Although his population possessed normal intellectual capacity, he commented, "... the control of activity in conformity with moral consciousness is markedly defective." He suggested, "inhibitory volition," that is, the capacity to exercise good judgment, might be imperfectly developed in these sub-jects. From 1940 through 1960, the condition was identified with "minimal brain damage or dysfunction," and its etiology was speculated to be insults to the brain such as head injury, infection, and toxic damage.[6] In the 1960s it became "hyperactivity" or "poor impulse control," reflecting that no underlying organic damage had been identified. By the 1970s-1980s, the "hyperactivity" symptomatology had taken on more di-agnostic significance in comparison with the other symptoms. In 1980, the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III) listed the term "hyperkinetic reaction of childhood," which then evolved through "hyperkinetic syndrome" and "hyper-active child syndrome," to "attention deficit disorder" (ADD), either "with hyperactivity" or "without hyperactivity." By 1987, in the revised DSM-III (DSM-III-R), the earlier focus on hyperactivity had shifted toward inattention and impulsivity.

As the research on ADHD progressed, the balance between the three major diagnostic symptom clusters was subsequently further refined, so that in the 1994 DSM-IV the official term was Attention Deficit / Hyperactivity Disorder, or ADHD, with three subtypes.[1] In-attention and impulse control are now regarded more as the cardinal defects than is hyperactivity. Some professionals continue to reserve the term ADD for children who are only inattentive and ADHD for children who are also hyperactive, but all official reports or other records are required to use ADHD.

ADHD is usually diagnosed in school-age children, and is conservatively estimated to occur in 3-6 percent of this population from diverse cultures and geographical regions.

The adverse social, familial, and personal consequences of ADHD cannot be over-stated. Most ADHD subjects develop emotional, social, and family problems as a con-sequence of their primary difficulties. ADHD is a major problem both for society and for the child, as it causes friction in school or at the workplace, depresses the academic performance of the student's entire class, interferes with peer relationships, and increases intra-family stress. For the individual afflicted, until ADHD symptomatology can be recognized and brought under medical management, daily existence is likely to be severely com-promised along with the lives of those around him (or her, although ADHD is more prevalent in boys by a 3:1 margin). Parents and children express desperation for interventions that will work, but without the adverse effects inflicted by the pharmaceutical management model.

The first report of stimulant use to treat ADHD was in 1937. The current overwhelming reliance on methylphenidate and other stimulants for ADHD treatment belies the ample evidence that ADHD symptomatology can be ameliorated without the use of drugs.

The Diagnosis and Progression of ADHD

ADHD diagnostic guidelines are found in the DSM-IV, which is related to the World Health Organization ICD-9 and ICD-10 categories.

ADHD children have difficulty sitting still, maintaining their attention on the task at hand, and thinking through their answers before they respond to questions. Although ADHD is distinctly different from learning disability per se, the behavioral features that define this disorder, short attention span, distractibility, impulsivity, over activity occur on a continuum across the population, thus the ADHD diagnosis requires thorough consideration of the severity of the symptoms and the relative degree of functional impairment.

ADHD per DSM-IV is diagnosed in five major steps, each with specific criteria. The symptoms must appear before age seven, persist for at least six months, and appear in the school environment as well as the home. The first step is to establish EITHER (a) ab-normal and persistent inattention, from at least six symptoms continuing over a minimum six months, OR (b) abnormal and persistent hyperactivity-impulsivity, also from at least six symptoms over six months. The second step is to establish that these symptoms were present before seven years of age. Third, these symptoms must be present in two settings, usually at school (or work, if an adult) and at home. Fourth, there must be clear evidence of "clinically significant impairment in social, academic, or occupational functioning." The fifth criterion is exclusionary—that the symptoms not be secondary to some other disorder. Whereas some of the ADHD symptomatology can be linked to family changes (e.g., divorce) or other life events (e.g., head trauma), ADHD typically begins early in life, is chronic, and is pervasive.

Once the basic ADHD diagnosis is established per the above-described criteria, three subtypes can be differentiated.[1] These are

(1) ADHD, combined type, applied where both inattention and hyperactivity-impulsivity—(a) and (b) above—are extant for at least 6 months;

(2) ADHD, predominantly inattentive type, if only the inattention criteria are met; and (3)

ADHD, predominantly hyperactive-impulsive type, if only the hyperactivity-impulsivity criteria are met. There is also a DSM-IV criterion of ADHD in Partial Remission, for individuals (usually adolescents or adults) who exhibit only some of the required symptoms but are otherwise experiencing significant functional impairment. Then come the assessments for the learning disabilities and other neurologically based disorders with which ADHD is often associated.

Between 30-40 percent of ADHD sub-jects have learning disabilities[18,] but the ADHD child is not mentally retarded and can be realigned toward a productive life path. Other neurobiological difficulties encountered in the ADHD population are motor tic disorder or Tourette’s disorder, anxiety dis-order, anger control problems, and depres-sion.[22] Some children will have two, three, or more of these difficulties without having ADHD, but Biermann studied a large population of ADHD children and found that more than half also had depression, anxiety, and conduct disorder. The clinician must there-fore verify, document, and prioritize these various symptom clusters, both to assess their contributions to the child’s apparent ADHD patterns and to develop means for their medical management concurrently with ADHD.

To help make this possible the physician and the other professionals involved must work closely with parents and teachers to assess the child as a total individual.

ADHD Medical Management– Current Status

The conventional management of ADHD formally involves a multimodal approach. Currently, this approach includes individual and family education, counseling, behavioral therapy, school remediation, and medication. Close coordination between the subject, the family, the practitioner and the school system ought to be integral to this approach.

Psychostimulant medications are generally the first choice in medication of ADHD. Approximately 70 percent of the children treated show improvement in the primary ADHD symptoms and in co-morbidity such as conduct disorder.

Currently, methylphenidate is the drug of choice, other first-line stimulants include dextroamphetamine. The second-line stimulants include methamphetamine), or pemoline, which causes hepatotoxicity in about three percent of subjects treated and can cause death, so must be closely monitored. The psychostimulantsare limited in their applicability, due to their marked and sometimes severe adverse effects. Decreased appetite secondary to anorexia or nausea may occur, leading to weight loss. Insomnia may also occur, as can head-ache. Lowering the dose and changing the timing may eliminate these side-effects. Rarely, psychostimulants may cause tics to develop, and cases of leukopenia and psychosis have been reported.[25] Methylphenidate (Ritalin), dextroamphetamine (Dexedrine), and Adderall are all classified as Schedule II agents in the U.S., consonant with their significant abuse potential.[25,29] As blood levels of the stimulant decrease over time, irritability may manifest as a “rebound” type of withdrawal symptom.

A subgroup with more depression and anxiety may respond better to tricyclic antidepressants (imipramine, desipramine) than to stimulants although both can have major adverse effects, with desipramine linked to sudden death. The antidepressant bupropion can, like the stimulants, exacerbate an underlying tic disorder. This drug is also contraindicated in children with anorexia nervosa, bulimia, or epilepsy.

Certain non-stimulant medications can serve as allopathic alternatives in ADHD when stimulants have failed. Among these are the alpha-adrenergic clonidine and guanfacine. Both are less well validated than the stimulants and not as efficacious. Clonidine can cause sedation and dysphoria, and both of these drugs require blood pressure monitoring because they are also antihypertensive.

The psychological disorders that often coexist with ADHD also require management. The more serious of these include tics or Tourette’s syndrome; depression, including the bipolar type which is quite prevalent; anxiety; and obsessive-compulsive disorder. For children who have tic disorders, extreme over activity, oppositional or conduct disorder, ADHD also can be associated with impulse control problems more extreme than the usual ADHD spectrum; sometimes antipsychotics are prescribed, although their risks outweigh their advantages.[5] In summary, pharmacologic management of ADHD and the coexisting conditions can challenge even the most experienced practitioner, and safer modes of management are urgently indicated for this unfortunate patient population.

* * *

SPECIFIC LEARNING DISABILITIES

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DEFINITION :

Specific learning disabilities (SLD) refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities despite adequate instruction, cultural difficulties, sensory or emotional problems. Essentially there are four critical components to the definition of SLD:

1. It is a neurobiological condition
2. It is not due to poor instructional practices
3. A demonstrable discrepancy exists between the individual intrinsic ability and the actual academic achievement and
4. The child has at least average cognition abilities.

There are 3 types of SLD :

Dyslexia- difficulties in reading

Dysgraphia - difficulties in writing

Dyscalculia - difficulties in mathematics

CLINICAL EVALUATION :

SLD is a clinical diagnosis, although it has an educational manifestation and pediatricians are often involved due to the associated behavioral problems. The age of presentation varies from as early as preschool or much later in adolescence depending on the educational challenges.

Dyslexics often have slow effortful word reading, difficulty in comprehension of read text, spelling errors. Often writing issues such as poor written expression, multiple grammatical errors, sloppy handwriting skills are seen. Mathematics difficulties such as a poor number sense, finger counting, deficits in mastering mathematical concepts, reasoning skills maybe seen.

The common developmental co morbidities linked with SLD have to be screened for and treated simultaneously and these are :

1. Attention Deficit Hyperactivity Disorder (AD/HD)
1. Oppositional defiant disorder (ODD)
2. Conduct disorder (CD)
3. Depressive disorders

4. Anxiety disorders
5. School phobia
6. Sleep disturbances.

A synthesis of reports from the multiple sources such as cognitive abilities, formal and informal educational tests forms the core domains to knowing the child's strengths and weakness and customize the child's IEP at school or resource room.

TREATMENT

A. Educational techniques for SLD's :

1. Remediation :
2. Accommodations :

SLD'S : THE INDIAN CONTEXT

SLD is a disability that is recognized worldwide, but is still culturally unique and has a specific perspective to its identification.India is unique due to her rich diversity in language, teaching styles, curriculum structures across the nation. Hence one of the main issues of concern for India is the correct identification of SLD with culturally appropriate tests.

OUTCOMES :

SLD persist lifelong although their manifestations may evolve with time.

* * *

> "There are two kinds of 'disabled' persons: Those who dwell on what they have lost and those who concentrate on what they have left."
>
> **- Thomas Stephen Szasz**

TEACHING STUDENTS WITH LEARNING DISABILITY

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"Learning Disabilities" refer to a number of disorders, which may affect the acquisition, organization, retention, understanding, or use of verbal or nonverbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and/or reasoning. As such, learning disabilities are distinct from global intellectual deficiency. Learning disabilities result from impairments in one or more processes related to perceiving, thinking, remembering, or learning. These include, but are not limited to language processing, phonological processing, visual spatial processing, processing speed, memory and attention, and executive functions (e.g., planning and decision making).

Learning disabilities range in severity and may interfere with the acquisition and use of one or more of the following:

- Oral language (e.g., listening, speaking, understanding);
- Reading (e.g., decoding, phonetic knowledge, word recognition, comprehension);
- Written language (e.g., spelling and written expression); and
- Mathematics (e.g., computation, problem solving).

Learning disabilities may also involve difficulties with organizational skill, social perception, social interaction, and perspective taking. Learning disabilities are lifelong. The way in which they are expressed may vary over an individual's lifetime, depending on the interaction between the demands of the environment and the individual's strengths and needs. Learning disabilities are suggested by unexpected academic under-achievement or achievement which is maintained only by unusually high levels of effort and support.

Learning disabilities are due to genetic and/or neurobiological factors or injury that alter brain functioning in a manner which affect one or more processes related to learning. These disorders are not due primarily to hearing and/or vision problems, socio-economic factors, cultural or linguistic differences, lack of motivation, or ineffective teaching, although these factors may further complicate the challenges faced by individuals with learning disabilities.

Learning disabilities may co-exist with various conditions including attentional, behavioural and emotional disorders, sensory impairments, or other medical conditions. For success, individuals with learning disabilities require early identification and timely specialized assessments and interventions involving home, school, community, and workplace settings. The interventions need to be appropriate for each individual's learning disability subtype and, at a minimum, include the provision of :

- specific skill instruction;
- accommodations;
- compensatory strategies; and

- self-advocacy skills.

Skill Areas Associated with Learning Disabilities

- Receptive and Expressive Language Skills
- Auditory/Phonological Processing
- Visual Processing
- Visual-Motor Processing
- Attention
- Memory
- Metacognition
- Study and Organizational Skills
- Social Skills

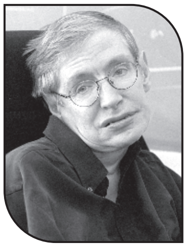
It is important to remember that every student diagnosed with a learning disability will present with his/her own unique learning profile. The degree to which students experience difficulties will vary. The areas of strengths and interests will also vary. It is important to determine and enhance supports for each student based on the individual's strengths and needs.

What is Remedial Teaching?

It is a multifaceted approach, tailoring remedial intervention plans to a child's specific needs. It makes use of one-on-one instruction, small group instruction, written work, verbal work and computer-based work.

- Remedial Therapy focuses on skills rather than on content.
- These skills include visual discrimination, perceptual organization, laterality, sequencing, abstract reasoning, auditory processing, sound recognition, blending, segmenting, phoneme manipulation, mathematical operations, focusing and eye tracking.
- Help is offered to pupils who need (pedagogical/didactic) assistance.
- These are often children who function at a lower than average level because of a certain learning- or behavioural problem/disorder, but it can also be offered to pupils who achieve at a higher than average level, they too can do with the extra attention and care.

* * *



Stephen Hawking

An Ode to Stephen Hawking

His lips locked one spring
When steps had long lost their spring
The eyes with their flutter dead
And fingers could hardly spread….

But alive was his spirit
Indomitable… Undaunted
Strong & tensile was it so
Timeless storms could never it bow…

Soared it up up and high
To touch the jewels of the sky
Unravel the 'Universal' mysteries
And break myths of 'Black' Historys !

That "spaceless" holes can gobble
The Stars of every making ….
Where 'Light' too can hole in
A Brief history of Time!

Never were his days a struggle
For, he turned them into a jingle
To celebrate the sheer brilliance
Of his billion cells' neural cadence!

Enjoying his dance with premises
As they twisted,turned & swerved
He questioned & re-questioned
Humbly,'His' existence itself !

"Indeed, God does play dice!"
Said he, with such verve
"And fortunate we all are
To witness His 'uncertain' nerve!"

Singularity to the Big bang
The 'Multiverse' is expanding…
But there was a single Hawking
Who sparked his 'Theory of Everything'!

Not one before him
Not one would after be
A 'God-man' who denied God
Will ever be born like he !

---Dr. Shubhada Khirwadkar

Section 4
Cerebral Palsy and Intellectual Disability

Participation-based Therapy for Children with Physical Disabilities

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Optimizing home and community participation and self-determination of children with physical disabilities are important outcomes of rehabilitation. In the International Classification of Functioning, Disability, and Health (ICF [1]) and the ICF for Children and Youth (ICF-CY [2]), participation is defined as involvement in life situations, reflecting the interaction of the person, activity and environment. Self-determination may be defined as a combination of skills, knowledge, and beliefs that enable an individual to take responsibility and advocate for personal life goals. Participation in family life and community activities enables children to become self-determined, to learn skills, form friendships, to express creativity, and to determine meaning and purpose in life. Sustained participation in organized out-of-school activities is associated with positive health and developmental outcomes, including an improved sense of wellbeing, decreased incidence of depression, improved self-esteem, and greater life satisfaction. For individuals with disabilities, meaningful and intrinsically motivated leisure activities foster mental and physical health benefits, provide opportunities for social relationships, and may improve quality of life. Children with physical disabilities participate in fewer leisure activities that occur more at home, spend more time on quiet activities, and are involved in fewer social and physical activities compared with children without disabilities.

More than 50% of parents of children and youth with cerebral palsy reportedly express needs for help in locating community activities. Adolescents with disabilities view engaging in activities they enjoy as important to being happy and achieving success in life. Among adults with physical disabilities, participation is an important predictor of life satisfaction. Participation of children with physical disabilities is influenced by multiple child and family determinants. It is found through several studies that:

- Child functional ability, family participation in social and recreational activities and child preferences had direct effects on participation while family cohesion, unsupportive environments and supportive relationships had indirect effects. Among children with cerebral palsy, communication ability, gross motor function, manual ability, enjoyment of activities, adaptive behavior, age and family activity orientation were associated with intensity of participation (the average amount of time spent participating in different types of activities).
- Children with cerebral palsy who walk without restrictions took part in a higher percentage of activities with friends and other non-family members, compared to children unable to walk.
- Among youth with cerebral palsy, several factors explained 46% of the variance in the number of leisure and recreational activities done with friends including sports and physical functioning (e.g. ability to walk, run, climb, and ride a bicycle), the extent communication/speech problems affected daily activities, education placement, and access to community recreational activities.

Despite the relatively fast uptake of the ICF and ICF-CY in pediatric rehabilitation, clinical trials have not been conducted on interventions specifically designed to optimize participation of children with physical disabilities. Parents of children with physical disabilities have reportedly ranked “participation research” as their second most important research priority after prevention of their children's conditions. A survey of pediatric physical and occupational therapists has concluded that therapists were practicing below an “optimal level” regarding the promotion of recreation and leisure for children with disabilities. Another important consideration for widespread implementation of participation-based interventions is the availability of public funding and/or private health insurance.

The experience of optimal participation

Optimal participation may be defined as a subjective, personally determined construct, related to the meaning that is associated with and derived from an individual's physical, social, and self engagement in activity and life situations. What constitutes optimal participation, therefore, is defined by the individual and the context for participation, and best quantified by individualized outcome measures. Various literatures support this conceptualization of optimal participation as 'meaningful participation'. Work in occupational therapy indicates that expending effort and being committed to an activity leads to identity building, sense of purpose, and meaning in life. Research on the learning opportunities afforded by natural environments indicates the importance of activity settings that provide natural opportunities for children to learn social roles, cultural goals and values, and socially adaptive skills. Research on the quality of experience supports the importance of a person-centered approach for determining the value of leisure.

Relatively little is known about the ways in which the developmental benefits of participation accrue or are realized. Research on environmental qualities and quality of experience, however, indicates the importance of psychological engagement in activity. Psychological engagement refers to a sense of absorption characterized by deep concentration and involvement. It has been proposed that meaningful activity-specific experiences are necessary for youth development. These include *doing* (i.e. engaging in activities that are fulfilling and engrossing), *belonging* (i.e. a fit with the social environment and a sense of acceptance by others), and *understanding the self and the world*, aspects that lead to a sense of meaning in everyday life. Key life outcomes for both children and parents include making a contribution to the world, social inclusion and belonging, and self-understanding.

Optimal participation of children with physical disabilities

Optimal participation of children with physical disabilities can be conceptualized as a dynamic interaction of determinants (attributes of the child, family and environment) and dimensions (physical, social and self engagement) of participation. The experience of participation is influenced by child and family interests and priorities and is optimized by real-life experiences that foster the child's active involvement, friendships and connections with others, learning and skill development, and enjoyment. Physical engagement is the child's involvement in the activity; what the child is actually doing. Social engagement encompasses interpersonal interactions that occur during the activity. Self engagement refers to the child's enjoyment in the moment and self-understanding such as learning new things and developing self-concept. Longer-term developmental benefits resulting from these in-the-moment experiences include competency-related benefits (i.e. skill development, physical benefits, educational benefits); social benefits (relationship-based benefits, civic benefits); and psychological and emotional benefits (i.e. enhanced self-efficacy and self-confidence, heightened self-worth, heightened sense of identity/self-concept).

Principles of participation-based physical and occupational therapy

In the absence of clinical trials on physical and occupational therapy interventions specifically designed to optimize participation of children with physical disabilities, it can be drawn on robust findings in the areas of pediatric service delivery, developmental science, childhood resilience and quality of life to identify evidence for participation-based therapy. Research in these areas strongly supports a number of key principles concerning the processes by which services are provided. Service delivery is ideal or optimal when it is goal-oriented, family-centered, collaborative, strengths-based, ecological, and self-determined.

Goal-oriented:

In randomized trials, the goal-directed approach of practice of real tasks in real environments has been shown to be more effective than no therapy and more effective than generalized therapy approaches focusing on impairments in quality of movement and muscle performance. Effective service provision involves collaborative goal setting and the pursuit of meaningful, client-selected goals. Effective listening and communication to establish a common goal are strategies widely considered to be fundamental components of successful interventions.

Family-centered:

Effective intervention requires a shared therapeutic alliance based on the belief systems of families, where collaborative decision making and intervention are guided by respect for parents' understandings of their child's needs and appreciation of family and child worldviews, values and preferences. Family-centered service represents a constellation of principles and practices that promote the family's (including the child) self-determination, decision making capabilities and self-efficacy. The principles underlying family-centered service include recognition of parents as the experts on their child's needs, the promotion of partnership, and support for the family's role in decision making about services for their child. The literature on family-centered care indicates the importance of interpersonal skills that enable and empower. There is evidence that family-centered care is related to physical or health benefits to children and psychosocial benefits for mothers. Consequently, family-centered service is considered to be a best practice in early intervention and pediatric rehabilitation services.

Collaborative:

Collaboration or a partnership between professionals and families has been endorsed as a best approach in the field of early intervention and is considered to be a core feature of effective services. Successful parent-therapist collaboration is characterized by the following therapist competencies: (a) ability to listen, share and learn with families; (b) ability to foster the parental role and expertise and (c) ability to facilitate parent-centered decision making about what is best for the child. The therapist's judgment, family-centered behavior, and interpersonal skills are involved in knowing what to do and when and how to do it. These abilities and behaviors, together, constitute the building blocks of family-centered service, effective help-giving and relationship-based practice.

Strengths-based:

An important service provider behavior is the ability to recognize and build on child and family strengths. A strengths-based or assets-based view of personhood and disability reflects a key premise of positive psychology, an area of study and practice concerned with the positive aspects that make life worth living. The literature highlights the role played by supportive and nonjudgmental client-practitioner relationships in: enhancing clients' hope, control, and feeling of empowerment over their situations; fostering the mutuality and cooperation required to achieve client goals; and leading to positive intervention outcomes.

Ecological:

An expanding body of high quality evidence supports therapeutic approaches that are focused on the acquisition of functional skills through practice in natural environments. Interventions that are designed to foster self-determination of children and youth either use a skill learning approach or an environmental/ecological approach involving real-life experiences, opportunities for choice-making and facilitated goal-setting, and solution-focused coaching that supports self-reflection. Work in the area of self-determination provides a theoretical rationale for how learning occurs in natural environments. Essentially, learners engage in a situation when they believe they will gain something valuable and manageable, and when they know how to regulate their expectations, choices, and actions to produce the results they expect.

Self-determined:

The literature repeatedly refers to the importance of considering mechanisms of change underlying intervention. Engagement, control and coherence are considered to be the basic mechanisms by which change occurs in human service delivery. These principles of change are discussed in the literature on self-determined learning, professional care giving or help-giving, psychotherapy and counseling, health promotion, and child development. Based on mechanisms of change associated with self-determined learning, it may be proposed that changes occur when children and families believe the intervention approach is worthwhile and beneficial. That is, they become emotionally invested, are engaged in the intervention process, feel confident and in control of decisions (through the provision of information and choices), and feel intervention goals (and strategies to achieve these goals) make sense or are coherent. Expert pediatric rehabilitation therapists see their role as facilitators of change, which encompasses educating, supporting, and facilitating a sense of empowerment in children and families (e.g. providing them with information, emotional support and resources and facilitating their sense of control over their circumstances). Expert therapists employ a strengths-based approach to meet family needs for hope and to envision possibilities for a more positive future. They utilize a flexible, individualized approach to enable the child and family to solve problems and discover solutions to participation.

Conclusively, optimal participation involves the dynamic interaction of determinants (attributes of the child, family, and environment) and dimensions (physical, social, and self engagement) of participation. Overriding assumptions of participation-based physical and occupational therapy are that: a) real-life experiences enable children to learn new activities and develop skills and b) the empowerment of families enables them to advocate for the full inclusion and integration of their children in society. Interventions are goal-oriented, family-centered, collaborative, strengths-based, and ecological, and follow a five-step process:

1. Develop a collaborative relationship with the family and child.
2. Determine mutual goals.
3. Assess child, family, and environment strengths, abilities and what needs to occur for the child to achieve the goal.
4. Develop and implement the intervention plan.
5. Evaluate processes and outcomes with the child and family. The therapist is a consultant, collaborating with the child, family, and community providers to share information, educate, and instruct in ways that build child, family, and community capacity.

Implications for rehabilitation

Home and community participation of children with physical disabilities is an important outcome of rehabilitation. Optimal participation is conceptualized as the dynamic interaction of determinants (attributes of the child, family, and environment) and dimensions (physical, social, and self engagement) of participation. Participation-based physical and occupational therapy is based on the assumption that real-life experiences enable children to learn new activities and develop skills and that the empowerment of families enables them to advocate for the full inclusion and integration of their children in society. In participation-based therapy, the therapist is a consultant, collaborating with the child, family, and community providers to share information, educate, and instruct in ways that build child, family, and community capacity.

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Importance of Reflex Integration and Influence of Retained Reflexes

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Reflex is an involuntary stereotyped response to a particular stimulus. Reflex responses to stimuli develop in fetal lifeReflex activity in response to tactile stimulation begins at 71/2 weeks of fetal development and continue to dominate motor behaviour in early infancy. Reflexes are commonly understood as movements that bypass cortical areas of brain. This ensures they are fast and does not require cortical processing.

Primitive tonic reflexes are automatic involuntary movements controlled from the brainstem and executed without cortical involvement

These types of reflexes have survived evolutionary changes in humans as they work on enhancing the chances of survival, growth or development and protect a child's body from external environment. Inhibition through involvement of higher cortical centres, will ensure more mature functions to develop. If primitive reflexes are retained and not integrated beyond 12 months of life, they suggest evidence of structural weakness or immaturity of the central nervous system. Integration refers to the inhibition by higher neurological centres of control which modify the reflex in such a way that the pattern of response is no longer stereotypical. The reflex does not disappear, it may reactivate under stress or activities requiring great strength. If these so called primitive reflexes are persistently displayed beyond the expected or typical developmental time period indicates an underlying developmental or neurological issues which interferes with child's advanced motor skills. If such a delay or disruption in motor skills exists, there may be an impairment in the child's occupational performance.

Normal Postural Reflex Mechanism

1) Stretch Reflex : If stretch reflex is abnormal then other reflexes will be abnormal. They contribute to muscle tone or the background state of muscle readiness which supports all movement.

2) Tonic Reflexes: They help to govern the distribution (postural) tone throughout the body. They include Asymmetrical Tonic Neck reflex, Symmetrical Tonic Neck Reflex, the Positive Support reflex and Tonic Labyrinthine reflex.

3) The Righting Reactions : Important in developing the normal postural reflex mechanisms and laying the foundation for normal movement pattern. They help the human to verticalize in space .

4) Righting reactions produce control of the body in midline positions, which must be present before controlled movement across the midline and away from the midline can occur.

5) Equilibrium Reactions : This includes muscle tone and movement changes throughout the entire body in response to shifts in the body's centre of gravity. It is the very matrix of mature human movement.

Influence of Persistent or Retained Reflexes

Retained ATNR :

- Poor isolation of individual body movements
- Poor Sitting Posture
- Attention and Focus
- Impaired prewriting and writing
- Difficulty with visual tracking and crossing the midline, poor eye-hand co-ordination
- Impaired scissor use
- Difficulty in tying ,fastening, using musical instruments
- Impairment in gait and running
- Poor short term memory and following verbal instructions
- Impulsive and emotionally immature for their age
- Poor gross-motor co-ordination and balance

Retained Symmetrical Tonic Neck Reflex

- Decreased strength and balance
- Slouch sitting
- Toe walking
- Motor act of writing is affected
- Poor ball handling skills

Retained Tonic Labyrinthine Reflex

- Difficulty in manipulating quadruped position
- Inability to roll over from supine
- Extra cautious while walking
- Slouches on chair while sitting
- Leans head on non-writing hand
- Difficulty walking on uneven surface

These reflexes can be integrated with exercise and activity programs involving early patterns of movement so that neural pathways are layed down which help the child to overcome the retained reflexes.

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Mental Health Issues in Children with Cerebral Palsy

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Cerebral palsy (CP) is one of the most common neurological disorders in childhood, and the condition is often diagnosed before the age of two years.

Definition:

"Cerebral palsy (CP) describes a group of permanent disorders of the development of movement and posture, causing activity limitations that are attributed to non- progressive disturbances in the developing foetal or infant brain. The motor disorders of CP are often accompanied by disturbances of sensation, cognition, communication, perception, and behaviour, in addition to epilepsy, and secondary musculoskeletal problems" (Bax et al., 2005; Rosenbaum et al., 2007). A number of important aspects are emphasized in the definition of CP. Firstly; it encompasses CP as a group of disorders manifesting itself in different phenotypes. Secondly, it emphasizes the permanent nature of the CP condition as opposed to a progressive disorder, as well as indicating a diverse aetiology of the condition. The condition is influenced by disturbances affecting a vulnerable developing brain, with a time frame stretching from foetal life until the age of 2-3 years. Finally, a number of co-existing conditions such as disturbances of sensation, cognition, communication, behaviour, and seizure disorders may accompany CP, suggesting that a broader, multidisciplinary approach is needed for children with CP.

Mental health problems

Mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community (WHO, 2014).

Mental health problems and cerebral palsy

Mental health problems co-existed in children with CP. The commonest psychiatric problems in children having cerebral palsy are anxiety, depression and/or withdrawal. Other features include attention deficit hyperactivity disorder, tantrums, social naivety, passivity and autistic spectrum disorders are also found in children with cerebral palsy.

Children with CP have higher risk of psychological problems than their non-disabled peers and this may be attributable to problems in adjustment to their adverse circumstances (functional abilities, experience of pain) as well psychosocial factors related to have a brain-based disability. The origins of psychological problems in this group are complex and it is not possible to ignore these factors that also influence adjustment in all children.

Behaviour problems:

Although children with CP are at greater risk for developing behaviour problems, they are considerably less likely to develop problems assessed by the antisocial and peer conflict scales. Conduct disorder was being more prevalent in mildly affected children, mostly in boys.

Social challenges:

Different studies have found that about a quarter of the children had significant psychological symptoms, most commonly associated with peer problems. They are challenged by negative social experiences like feeling excluded and being bullied. It is possible that differences in functional ability are more stressful for children with milder forms of CP if they are more similar to their able-bodied peers than the children with severe CP when they have greater of these differences. However, a high proportion of children had normal scores in the prosocial domain indicating a capacity for kindness and consideration to other children. Social competence and adjustment in children with developmental disabilities and chronic health conditions affecting the central nervous system are rated as less socially accepted and less socially competent than their peers. Recent models of social competence acknowledge that there are a variety of risk and resilience factors that can hamper or promote social development. Some of those factors are intrinsic to the child (e.g. intellectual functioning which increases the likelihood of deficits in social information processing, atypical social interaction and poor social adjustment), whereas others involve environmental influences (e.g. socio-economic status, parenting behaviours, and parent-child relationships). Parenting beliefs and behaviours as well as the quality of the parent-child relationship and even broader socio-cultural influences, such as the stigmatization (resulting from perceived disability) can influence children's social interactions and psychosocial adjustment.

Emotional problems:

It appears that emotional adjustment is associated with the severity of the condition and the degree of functional limitations experienced by the child. More than a quarter of children with CP experienced abnormal scores on the emotion domain.

Low self-esteem :

Motor impairments are often assumed to have a negative impact on the way of children feelings about themselves. Children with CP did not have a lower global self-worth compared to children with typical development, even though they felt less competent in their athletic skills, schoolwork, and peer relationships. Lower scholastic competence is important because it addresses their learning abilities which are compromised by certain aspects of cognition, communication and perception difficulties. Lowered score in Social Acceptance domain is important for a clinician to be aware that children with CP may not be accepted in their environment and may need assistance in developing interpersonal skills that will enhance their confidence in social settings, and place the need for individual assessment. Children with greater intellectual impairment or pain have a higher risk for experiencing psychological problems; those with greater functional impairment have a lower risk. Intellectual impairment was associated with hyperactivity and peer problems in a group of children with hemiplegia. Communication problems are associated with more psychological (behavioral) problems. Around 40% of parents of children with CP perceive their child to have definite or severe difficulties in relation to emotion, behaviour, concentration and getting on with others.

Assessment

Assessment may be complicated by communication problems (eg, difficulty speaking), atypical presentations of motor disability and neurodevelopmental disorders (eg, attention-deficit hyperactivity disorder or its symptoms), and challenges to obtaining clinical history. Physicians often resort to describing 'features' without diagnosing specific categorical disorders.

An appropriate, comprehensive, and accurate assessment of a child with a disability clearly presents a significant challenge. Assessments involving more than one discipline are recommended.

The assessment must thoroughly investigate all areas related to a child's suspected disability by using a variety of valid assessment instruments and observational data. All testing must be done individually. Children with CP present more issues for the assessor than children with other forms of motor impairment. Poor coordination and abnormal muscle tone or complete loss of motor function in the upper extremities impact fine motor control, dexterity and responding to times tests in a meaningful way as well as interfere with their ability to manually manipulate with materials (picking up objects; pointing; holding a pencil; writing, copying, or drawing). Prior to the assessment, the evaluator must ascertain how the child's mobility, manipulative skills, oral-motor functioning, and trunk and head control are affected as well as plan the assessment to compensate for or adapt to these needs. The ability to identify the child's cognitive abilities and also behaviour, emotional and social skills despite substantial physical impairment is one of the most challenging and important functions of the psychologist.

Studies assessing mental health problems in children with CP have often used the Strengths and Difficulties Questionnaire (SDQ), or the Child Behaviour Checklist (CBCL).

Finally, apart from the challenges to sound mental health among individuals with cerebral palsy, there is an impact on family function as well. Parents of a child with cerebral palsy face a range of stressors depending on their child's age, development, and functioning. At the time of initial diagnosis, parents typically grieve when confronted with the fact that their child is not developing normally and life will present ongoing struggles for them and their child. In the second phase, parents experience the desire to help their child function as normally as possible. They seek appropriate support services, as the child's needs change, including the transition from home to independent adult-living settings. The trend towards family-focused, rather than simply technical or short-term rehabilitation and interventions focused only on the child, have improved outcomes and reduced family stress.

At each stage of life for an individual with cerebral palsy (as for everyone), there are challenges to mental well-being. Awareness of these challenges and sensitivity to the signs of anxiety and depression, including externalizing behaviors (e.g. aggressiveness, hyperactivity, non-compliance), and/or their opposite, internalizing behaviors (e.g. social withdrawal, passivity, fearfulness) provide opportunity for early intervention and remediation. Comprehensive care must include mental health surveillance and support in addition to traditional medical, physical, and educational care.

Idiopathic Intellectual Impairment

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Idiopathic Intellectual Impairment refers to individuals with low intelligence who show no evidence of gross chromosomal defects or single-gene anomalies. It may also represent the lower end of IQ distribution. This impairment (backwardness) is defined as one which makes less progress than normal. Intellectual impairment means a person with the intellectual capacity that developed at a below average rate during the early developmental years. Several syndromes (such as Downs, Fragile, Rett syndrome, and other well known conditions) can be easily suspected because of their association to specific dysmorphisms, behavioural peculiarities, and multiple congenital abnormalities. However, a consistent percentage of children with genetic intellectual disability do not present a recognizable phenotype which is striking of a well-recognizable syndrome. Determining a specific etiologic diagnosis is central to understand the nature of the problem, providing answers to questions regarding prognosis, recurrence risks, directing specific therapies, and achieving meaningful inclusion of individuals with disability into society.

Intellectual impairment is one of the most frequently diagnosed disabling conditions in our society, and a lifelong disability characterized by impairment of cognitive and adaptive skills. The aetiology is very heterogeneous and, unfortunately, in more than one-half of cases the cause is still unexplained. Anything that damages and interferes with the growth and maturation of the brain can lead to intellectual impairment. This might happen before, during or after the birth of the child (including complications of pregnancy/birth, toxics, malnutrition, trauma, infections, under stimulation). Moreover, genetically determined aetiology (comprising chromosomal aberrations, single-gene disorders, and other genetic conditions) account by itself for 17 to 41% of cases, depending of the different techniques of analysis.

Mental Ability is always more likely to be under estimated than over estimated, especially in case of persons from lower socio economic groups.

India is a vast country with variable social, cultural, geographical and economic background. Communicable diseases and congenital diseases are still a major problem adding to the number of persons with disabilities. Evaluation of intellectual impairment is a big challenge with different social background, economic factors, extended family systems, low literacy rates, and virtually different habits/A.D.L. Intellectual impairment is a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior and may present as deficits in conceptual, social, and practical adaptive skills. It is a variable, heterogeneous manifestation of central nervous system dysfunctions, occurring in 1-3% of general population. An estimated 10% of the world's population experiences some form of disability or impairment (WHO Action Plan 2006-2011) Global Prevalence:

4%-10% (Yeo 2001) 4% in developing countries and 7% in industrialized countries (Metts 2000) India and South Asia Prevalence: 1.5-21.3% in WHO South East Asia member countries (http://www.searo.who.int/) 8% -2.2% for India (Census 2001, NSSO 2002). Different prevalence rates for disability are available in India. According to the Census 2001, there are 2.19 thousand people with disabilities in India who constitute 2.13 % of the total population (Census 2001). Out of the 21,906,769 people with disabilities, 12,605,635 are males and 9,301,134 females and this includes persons with visual, hearing, speech, locomotor and mental disabilities (Census 2001).

Children with intellectual developmental delay (IDD) may have delayed gross motor milestones, learning to sit up, crawl, or walk later than other children, or they may learn to talk later. Both adults and children with intellectual disability may also exhibit some or all of the following characteristics:

- Delays in speech and language development
- Deficits in memory skills
- Difficulty learning the social rules
- Difficulty with problem solving skills
- Delays in the development of adaptive behaviors such as self-help skills

Children with intellectual disability learn more slowly than a typical child. Children may take longer to learn language, develop social skills, and take care of their personal needs, such as dressing or eating. Learning takes longer time, requires more repetition, and skills may need to be adapted to their learning levels.

In early childhood, a mild intellectual impairment may not be obvious, and may not be identified until the child begins school. Even when poor academic performance is recognized, it may take expert assessment to distinguish mild intellectual impairment from a specific learning disability or an emotional/behavioral disorder. People with mild intellectual impairment are capable of learning reading and mathematics skills to approximately the level of a typical child aged nine to twelve (as published by DK, Ardinger HH, Holmes 2000) They can learn self care and practical skills, such as cooking or using the local mass transit system. As individuals with intellectual disability reach adulthood, many learn to live independently and maintain gainful employment.

According to the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), intellectual disability is considered to be approximately two standard deviations or more below the population, which equals an IQ score of about 70 or below. The assessment of intelligence across three domains (conceptual, social, and practical) ensures that clinicians base their diagnosis on the impact of the deficit in general mental abilities on functioning needed for everyday life. This is especially important in the development of a treatment plan. Intellectual disability involves impairments of general mental abilities that impact adaptive functioning (refers to the skills needed to live independently) in below mentioned domains, or areas, which determine how well an individual copes with everyday tasks:

a) The conceptual domain includes skills in language, reading, writing, math, reasoning, knowledge, and memory.

b) The social domain refers to empathy, social judgment, interpersonal communication skills, the ability to make and retain friendships, and similar capacities.

c) The practical domain centers on self-management in areas such as personal care, job responsibilities, money management, recreation, and organizing school and work tasks.

While intellectual impairment does not have a specific age requirement, an individual's symptoms must begin during the developmental period and are diagnosed based on the severity of deficits in adaptive functioning. The disorder is considered chronic and often co-occurs with other mental conditions like depression, attention-deficit/hyperactivity disorder, and autism spectrum disorder.

It is formally diagnosed by professional assessment of intelligence and adaptive behavior. The diagnosis is not based only on IQ scores, but also the adaptive functioning as mentioned above. To assess adaptive behavior, professionals compare the functional abilities of a child to those of other children of similar age. There are many adaptive behavior scales, and accurate assessment of the quality of someone's adaptive behavior requires clinical judgment and experience as well. The following ranges, based on Standard Scores of intelligence tests, reflect the categories of the American Association of Intellectual Developmental Disorders (AAIDD), the Diagnostic and Statistical Manual of Mental Disorders-V, and the International Classification of Diseases-10.

Class	IQ
Profound Intellectual Disability	Below 20
Severe Intellectual Disability	20–34
Moderate Intellectual Disability	35–49
Mild Intellectual Disability	50–69
Borderline Intellectual Functioning	70–84

A three-generation pedigree helps to find out intellectual impairment in the family, and a detailed pre-, peri- and postnatal history should help to establish a definitive cause. A dysmorphic child may be at risk from the stress of birth, and later delay may be erroneously attributed to birth injury. A careful developmental history, with emphasis on milestones, formal assessments and behaviour, is also a must. Medical records should be sought or requested to validate any diagnosis of malformations. An accurate EEG study and/or brain MRI are sometimes sufficient to suspect several well-known and relatively common disorders (such as Rett's syndrome, Angelman syndrome, neurocutaneous syndromes such as Tuberous Sclerosis, etc.). The degree of Intellectual Impairment is an important indicator: the so called "chromosomal" phenotype, which is well known to accompany larger aberrations, is frequently characterized by moderate-severe Intellectual Impairment associated with one or more of major signs, including congenital malformations. The behavioural phenotype is also distinctive for several well-known syndromic conditions, such as Williams syndrome, Angelman syndrome, Prader-Willi syndrome. Abnormalities in head size, growth parameters, and neurologic signs should also be carefully investigated.

As compared to Idiopathic Intellectual Impairment, the Intellectual Disability per se may occur due to a number of causes such as listed below:

a) Genetic & Chromosomal Abnormalities: One of the first genetic causes of intellectual disability is Down Syndrome. The extra chromosome interferes with the functioning of the brain, mostly leading to interference in intellectual functioning. Other causes such as Fragile X Syndrome, Hunter Syndrome, Hurler syndrome, Rett's syndrome, Tuberous sclerosis, defective chromosomes, chromosome deletions / translocations also interfere with intellectual performance and lead to cognitive impairments.

b) Metabolic Disorders such as Phenylketonuria, endocrinological disturbances as Cretinism, cranial malformations, hydrocephalous, microcephaly, all result in intellectual deficiencies of varying degrees.

c) Nutritional Deficiencies: Nutritional deficiencies are one of the biggest culprits of many a medical condition. A nutritional deficiency during pregnancy can be more disadvantageous to the unborn child than it can be to the mother. A lack of nutrients like vitamin A, iron, iodine, zinc, etc., has been known to cause problems pertaining to mental health for a large population across the world. With a mounting consumption of fast food and junk food, nutritional deficiencies are on the rise like never before. Apart from the above mentioned, famine / conditions causing malnutrition is also one of the largest causes of this mental condition.

d) Environmental Conditions & Exposure to Toxins: The next few highly contributing factors leading to intellectual impairment are those of environmental conditions, as well as exposure to toxins. Environment in a case like such is generally in reference to poverty and cultural deprivation. This idea also refers to the lack of mental stimulus, thus stunting mental growth. Exposure to toxins is an equal culprit leading to it too. One of the more common forms of these toxins would happen to be cigarettes. Expectant mothers who smoke are also a threat.

e) Other conditions leading to intellectual impairment are, traumatic conditions faced during pregnancy, problems at or after birth, including complications of pregnancy and birth, metabolic disorders, infections, as also a multitude of unexplained reasons. Two retrospective studies have found that prenatal exposure to stressful events is associated with increased risk of Autism Spectrum Disorders, Ward (1990) and Beversdorf et al (2005). In both studies mothers reported stressful life events such as loss of job, death of husband or close relative, significant family discordance during pregnancy etc.

Some Probable Etiology for the Idiopathic Intellectual Impairment as understood by varied research across the globe:

a) Microdeletion / Micro duplication syndromes: In the last few years, several emerging clinical entities have been described, due to the advent of newest genetic techniques, such as array Comparative Genomic Hybridization. The detection of cryptic micro-deletion / micro-duplication abnormalities has allowed genotype-phenotype correlations, delineating recognizable syndromic conditions. The presumed channel at the basis of remaining "pure idiopathic" forms of ‘Intellectual Disability’, highlight possible environmental and epigenetic mechanisms as causes of altered cognition. With the advent of novel genetic techniques, several new cryptic chromosomal aberrations have been discovered in last few years and a consistent number of cases, previously considered "idiopathic" forms, are now classified as syndromic conditions with clinical recognizable phenotypes.

b) Parents with Intellectual Disability: Studies of children raised in homes where both parents were had intellectual impairment, revealed that between 39 to 61% of children tested were intellectually impaired. In studies such as Halperin 1945, and Penrose 1963, non impaired children tended to have borderline intelligence with IQ’s varying between 70 & 90 in nearly 16 – 40 percent of cases whereas between 4 to 26 percent of children were of average intelligence. For purposes of general estimate these studies indicated that where both parents were retarded, nearly one half had borderline intelligence and about 1/6th would have an overall average IQ. Average IQ’s of 65 and 74 have been noted among children of such parents (Reed & Reed 1965).

The distribution of IQ's in these children, though not lending itself to any judgement as to the role of psychological factors because of the confounding effects of heredity does indicate that intelligence cannot be solely a function of the environment.

c) Home Environment: Yeates et al (1983) conducted a study to investigate maternal IQ and Home environment as determinants of early childhood intellectual competence. Children at risk for socio cultural intellectual disability were studied longitudinally from birth to 4 years of age. Maternal IQ's were assessed before the child's birth and children's IQ and home environment were assessed at regular intervals during 1st 4 years of life. Multiple regression analysis was used to separate the contributions of maternal IQ and home environment to the child's IQ at 24, 36 and 48 months of age. The overall pattern suggested a monotonic increase in the predictability of the child's IQ within the context of a shift in the relative importance of maternal IQ and home environment as predictors.

d) Family Size: Another very important confounding factor has been the family size. Presenting here the various studies by experts across the globe. One of the earliest and most consistently reported findings related to the effects of family size has been a decline in the IQ with an increase in the number of children. The majority of studies conducted in several nations have shown a negative co relation between family size and IQ with some indication, however, that this co relation may be less pronounced in higher socio economic status groups. Attempts to account for this decline in IQ with an increase in family size have generated a variety of hypothesis. All kinds of resources like financial, dietary, spatial, emotional are shared by more members in large families. In the lower socio economic classes, adverse physical conditions may be aggravated when many members of the family have to share a meagre subsistence. The increased size of the family also means that each child receives less attention from his / her parents and learns about life and the outer world more from the siblings who may be just a little older that the child himself. In a large family a child's development may also be affected because of the fact that so many of the role models are children themselves who use speech poorly. The decline in the IQ with increasing size of family in lower socio economic group mostly suggests that children from larger families would on an average be less successful academically. It would appear that compared to their IQ level, their academic achievement is much inferior. Many studies suggest that children from smaller families show higher achievement, motivation and superior performance in academics than those from larger families. Parents with higher educational and occupational aspirations for their children are likely to plan their family to match their resources. They are also likely to set goals for their children and impose standards of excellence beyond those imposed by parents who have fewer ambitions for their children. The primary effect of family size may be seen in respect of the physical development of children from large families which seems more problematic than that of children from smaller families. The probability of intra uterine problems rises with increasing number of child births. Passamanick et al 1956 reported a 10 fold increase in mental backwardness as one moves from the first to the sixth child born to the mother. In general, prematurity and its associated problems and mal development also become more frequent with increasing number of child births. These are all perplexing theories put forth by researchers mystified by the causes of idiopathic intellectual impairment.

e) Effect in Siblings and Relatives: Idiopathic intellectual impairment has been documented in siblings and relatives in few studies. A genetic study of children in Birmingham Coventry has shown a recurrence risk of idiopathic intellectual impairment in siblings lying between 1 in 4 and 1 in 5. There was also a prevalence of intellectual impairment in other relatives that was greater than the population prevalence, and was less for second degree relatives than for first degree, and less still for third degree relatives. Recurrence in siblings was greater if more than one first degree relative was affected. There was no suggestion of a contribution by X linked genes, once the fragile X syndrome had been excluded. The presence of perinatal and other environmental factors in the index children did not alter the recurrence risk for sibs except for very low birth weight.

The results of many studies with pairs of siblings are similar and show that the higher the proportion of genes shared by two relatives, the higher the average correlation between their IQs. There was a low recurrence rate of intellectual impairment in Asian families, suggesting that they had a different distribution of intelligence from non-Asian families. Hereditary factors in the aetiology of idiopathic autism are well established but particular genetic mechanisms have not been identified.

The study by Sarah Bunde et al,1989 suggested that 60 to 70% of the total variation of intelligence in a population is the result of genetic factors and less than 10% the result of environmental factors outside the family. The genetic component is largely polygenic, that is, composed of many genes individually of little effect. Bouchard and McGue3 considered that there was no evidence of a contribution by X linked genes, because like sex pairings did not differ from unlike sex pairings. However, an X linked gene for spatial ability has been postulated. The relative contributions of genetic and socio cultural factors to the normal range of intelligence have been discussed by many authors.

f) Social Impact: Siblings of cases of ADHD have been documented to exhibit similar symptoms and lower academic performance due to behavioural and social adaptation difficulty. The family of a child with hyperactivity, attention deficits, and cognitive impairment must cope up with frequent and exceptionally high demands of parenting. The family is confronted with serious medical and environmental issues that rarely seemed to be solved.

The primary goal of treatment is to develop the child's potential to the fullest. Mother & child centred, multi disciplinary, comprehensive early Intervention & rehabilitation program should be available under one roof for better compliance so that 'Every Child' may reach his / her maximum potential. Early Intervention Services, special education and training may begin as early as infancy. Importance of home environment , age appropriate toys, social environment, and degree of Parental Responsiveness, amount of warmth and nurturance available, extent of limiting a child's behavior by parents, type of discipline used etc should be reinforced to parents. Importance should be given to dental checkups to look for mal-alignment of teeth which may cause not only improper nutrition intake but may also interfere with speech and language development, phonetic sounds etc. Speech impairment may cause low self esteem and an eventual loss of interest in surroundings in a school going child. Regular growth and development monitoring is of utmost importance in babies born to mothers with pre natal stress and birth complications. It is also important for a specialist to evaluate the person for other affective disorders and treat those disorders. Behavioral approaches are important for people with intellectual impairment.

The outcome and prognosis depends on:

a) Opportunities provided to the child with respect to his home environment, family support, community support.

b) Co Morbid conditions and associated psychiatric disorders such as Mood Disorders, Psychotic Disorders, Organic Psychoses etc

c) Personal motivation

d) Therapeutic interventions in the form of speech therapy, physio – occupational therapy, special education guidance etc. Many persons can lead productive lives and function on their own; many others may require a structured environment to be most successful.

Paediatricians should be alerted by the presence of Intellectual Impairment of unexplained origin associated with altered auxological parameters, multiple congenital defects, neurological and psychiatric signs, and/or minor dysmorphisms. The implementation of the so called "next generation sequencing" technologies that allow the analysis of whole-genomes, transcriptomes and interactomes could lead to detect single base mutations and structural variations, further broadening the possibility of diagnosis in "idiopathic" cases of ID. Understanding the pathological pathways underlying unexplained forms of ID represent a future challenge to increase both prevention and possible therapies. Because of the high incidence of CNS impairment and low overall interpersonal coping abilities, children / adolescents with Intellectual Impairment have a greater than average risk for developing associated psychiatric disorders. Persons suffering from such a condition require constant care, intervention and custom-made system of education. Resources and services for mental and behavioural disorders are disproportionately low compared to burden caused by these disorders the world over. In most developing countries, care programmes for the individuals with mental and behavioural problems still have a low priority. Provision of care is limited to a small number of institutions usually overcrowded and under staffed. Over past several decades, the model of mental health care is changing and community care approach is setting in. The mental health programmes have played important role in this shifting paradigm. Early Intervention and Early Stimulation programmes are playing a vital role in the Child Development Centres across the country being run by dedicated Developmental Pediatricians. Nevertheless, virtually every child is able to learn, develop and become a participating member of the community at some level.

* * *

Arunima Sinha

She was devastated when she lost her leg as some robbers pushed her out of a moving train.

Two years later, she became the first woman amputee to climb Mount Everest. She disliked the look of pity and sympathy in everyone's eyes and did not want to be looked upon as a handicapped person. She has proved that a strong determination and will is far more important than a strong body. Even with a prosthetic leg, she overcame her challenges and made history.

* * *

Girish Sharma

He epitomizes the indomitable strength of compensatory power of our body.

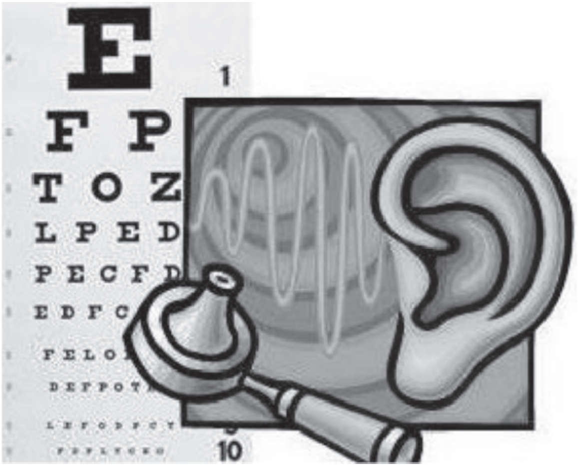
He lost a leg in a train accident when he was a kid. But, this setback in life did not stop him from becoming a badminton champion.

He has just one leg which is so strong that he not only plays the game effortlessly but also easily covers the entire court.

Ever since he was a kid, he would indulge in outdoor activities with other kids without letting his disability come in the way.

PREFACE

Hearing and vision impairment may be associated with neurological disability or present as isolated finding. In both the cases it contributes greatly to the functional outcome for the person with disability. Prevention, early identification and treatment is must in these cases as the timing of intervention will decide the final functional status in individual cases.



Section 5

Speech, Language and Hearing Disorders

Normal Hearing - Every Child's Birth Right

Dr. Ashish Disawal

M.B.B.S, D.L.O, D.H.L.S

Hearing is the 1st sensory organ to develop. Of all the senses, hearing is the only one that is on all the time even during sleep. Invisible non - noticeable handicap difficult to identify early. Approximately 2 out of every 100 children under 6 yrs. of age have Permanent bilateral deafness above 60db. Yet hearing loss in neonates | Infants | young children remains undetected in majority of cases. Even if the parents complains of decrease hearing loss of their child many a time relatives as well as consultant, treating physician advice them to wait and watch, which accounts to gross negligence and needs to be totally avoided. 0 - 3 years is considered to be critical period for proper development of the auditory centers in the brain as the plasticity of brain is maximum during this period.

Neonatal hearing screening (high risk register)

i) F/H of cognetial hearing loss
ii) H/O in utero infections TORCH
iii) H/O use of ototoxic drugs by the mother during pregnancy.
iv) Low birth weight below 1500gms
v) Presence of any Cranio Facial abnormality.
vi) Baby born out of consanguineous Marriage
vii) Low Apgar Score
viii) Hyperbilirubinemia
ix) Any recognizable syndrome at birth (associated with hearing loss e.g. Down's syndrome, Treacher Collins syndrome Etc.
X) Any H/O postnatal infections Meningitis, Encephalitis

New Born Hearing screening, Early identification and hearing intervention program goals: - (1, 3, 6)

1) Screening before 1month of age
2) Audiological management including the use of amplificative device, by 3months of age
3) Early intervention (management and rehabilitation) by 6 months of age.

Restoring near normal hearing is the best gift a child can receive before his 1st birthday.
Early identification and Intervention can make a big difference in

a) Effective communication, cognition
b) Educational excellence
c) Better social and emotional adjustment
d) Better job opportunities.

Assessing the deaf child is important to know

a) Degree of hearing loss
b) Type of hearing loss
c) Associated other abnormality

Lot many important informal, formal subjective objective investigations are available in the test battery protocol which will add to confirm the degree and type of hearing loss.

Oto Acoustic Emission (OAE):- Successfully done in infants within 24 -48 hours of birth Non invasive, simple, portable approximately 5 minutes required. OAE screens hearing sensitivity from external ear upto outer hair cells of cochlear.

BERA :- (Brainstem Evoked Responses Audiometry) It gives information about the inner ear (cochlea) and Brain pathway for hearing. Diagnostic test, Non - invasive, sedation required, sophisticated instrument, setup and trained person required

Management:-

Medical (conductive hearing loss)

Amplification device (Hearing Aids) :- the function of a hearing aid is to amplify sounds to a degree and in a manner that will enable a hearing impaired person to utilize his/her residual hearing in an effective way, Hearing aids can be filled as young as 1month of age

When to refer for cochlear implant

a) No significant progress of speech, language and hearing skills of the child even with use of proper hearing aids
b) Aided response beyond 2 kHz outside the speech spectrum
c) Progressive hearing loss

A cochlear implant is an electrical device designed to provide enhanced sound perception and better speech understanding to children and adult with severe to profound hearing loss, Who receive little or no benefit from conventional hearing aids.

Cochlear implant can be done in children less than 1year also, once they fulfill candidacy criteria including radiological, vaccination and detail audiological investigation with proper consent.

Speech therapy /AVT therapy plays a very major role for integrated inclusive education and for success of any cochlear implant program

It is the ability to hear, comprehend and communicate in spoken language that sets human race apart from the animal world

With intense contribution from all experts in their respective areas, with early diagnosis and management, we can help in developing a normal child and a healthy nation.

We have to use it or lose it.....

Hearing Impairment - Clinical aspects and management in Children with Developmental Disabilities

Prof. Vijayendra Honnurappa
Bangalore,India

Deafness is the second most common cause of disability in India. 360 million people in the world suffer from disabling hearing loss which is 5.3% of the world's population. The prevalence of deafness in South-East Asia ranges from 4.6% to 8.8%.

Causes of hearing impairments in children can be divided in to 2 groups - Congenital and Acquired causes.

Congenital causes include Genetic factors (Autosomal Dominant, autosomal recessive, X linked diseases). The other causes include prenatal infections, illnesses, ototoxic drugs, Intrauterine infections including Rubella, cytomegalovirus, and herpes simplex virus, Blood Rh incompatibility, Prematurity, Maternal diabetes, Toxemia during pregnancy, anoxia.

Acquired causes include Ear wax , Ear infections , Ototoxic drugs, Meningitis, Measles, Encephalitis, Chicken pox, Influenza, Mumps, Head injury, Noise exposure.

Middle ear infections such as chronic suppurative otitis media and serous otitis media are other leading causes of hearing loss. Approximately 50% of all cases of congenital hearing loss are attributable to environmental factors, such as congenital hyperbilirubinemia, ototoxic medication exposure, neonatal hypoxia, viral infections, and meningitis. The other 50% of cases are thought to be inherited, i.e., of genetic causes. Of these hereditary cases, approximately 30% are classified as syndromic. About 400 named syndromes are associated with hearing loss, the associated auditory features being quite variable – sensorineural or conductive, unilateral or bilateral, and progressive and stable.

Early diagnosis and management of hearing impairment is of utmost importance in children to ensure proper development of speech and overall growth.

MENTAL HEALTH PROBLEMS IN INDIVIDUALS WITH HEARING IMPAIREMENT

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Deafness, hard of hearing a hearing impairment are the different terminologies used to denote the basic problems of inability to hear with various intensities most of the cases it is associated with inability to use speech as well thus many times these individuals are referred as deaf and dumb .

The most important skill which is improved skill in these individuals is various areas associated with speech and language thereby also affecting the communication.

Thus , we can say that speech, language, communication, vocabulary,thinking, memory, reading as well as writing are affected in varied intensity depending on the cause.

How does it affect the developing psychology or personality of the children andadolescent? How do they perceive information and how do they express it? Do they have enough vocabulary to understand and express their thoughts and feelings?

How is the mental health status of these individuals?

It is stated that, these individuals have the almost the same or even more incidences of mental health problems.

Following are some of the reasons, why deaf face the risk of having psychological problems.

1) They develop adequate trust in relationships.
2) They are in phase of chronic sadness or depression.
3) They frequently experience nervousness and anxiety.
4) They have frequent episodes of anger and isolation which can't be expressed adequately.
5) They have limited group identification
6) They may have feeling of competence with feeling of being unacceptable to others.
7) They may have impaired social skill.
8) Tendency to blame their hearing impairment as a cause of all problems with episodes of extreme tensions.
9) Feelings of beings management with significant learning problems.

10) Impact of family conflict, problems in education vocation and marriage as well.

Thus we can see that there are various reasons , which make the individual with deafness particularly vulnerable for psychological problems. The following psychological and psychiatric problems may be seen in deaf individuals.

- Deaf individuals experience all symptoms seen in mental health problems as in verbal individuals.
- Behavioral problems and conduct disorders are fairly common.
- Anxiety depression is also seen.
- Substance abuse, aggressive behavior is seen.
- There is vulnerability to sexual abuse violence,delay in cries response and mental health first aid.
- Risk of self-harming & suicidal tendency is also observed.

As we all are aware the expression of mental health problems will always be better of the person is able to verbal his /her thoughts similarly communication and interaction with the therapist on verbal basis is essential.

This deaf person may experience difficulty in expressing the thoughts as well in getting the therapy.

Conclusion Mental health issues in deaf are fairly common special services in the form of use of interpreting services are of interpreting services are of proper diagnois and management

Section 6
Visual Disorders

Topic : Ophthalmic Interventions in children with disability

(Under the section multidisciplinary approach in
children with disability)

Dr Shubhangi Bhave

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Abstract :

In a disabled child, a visual handicap can have a direct impact on psychosocial status. Ocular abnormalities noted in 86 % of disabled children.

Assessment & management of visual disorders in physically and intellectually impaired children presents a challenge for clinicians. Refractive errors, nystagmus and strabismus often affect quality of vision significantly. Early diagnosis and management help in their learning and psychosocial development.

Intervention :

Method of V/A - Depending upon age and mental status of patient. [Snellens, Kay Picture, Preferential Looking, log MAR, CSM technique]

Ocular motility – Highly interesting colourful objects held in cardinal gazes.

Dolls head tilt test.

Cover test, Hirschberg Test – To see presence of strabismus.

Nystagmus –

- Refraction under cycloplegia (using 1 % cyclopentolate)

Anterior Segment – Examination using slit lamp biomicroscope.

Posterior Segment – Direct / Indirect Ophthalmoscope.

Surgery – To correct Strabismus.

* * *

Psychosocial issues in the visually challenged

Dr. Shubhada khirwadkar
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We all know that visually challenged persons have to constantly tackle the negative feelings, which are associated with blindness. These can range from relatively mild symptoms to clinical depression, suicidal thoughts and alcoholism.

Blind and partially-sighted people have been suffering for long for their mild to severe clinical depression, Post -traumatic stress disorder(PTSD), Generalized anxiety Disorder (GAD) & few others which often get neglected with reference to their sight problems.

We need to understand a lot more about the extent to which their Mental health affects the mobility, socialization & rehabilitation of the people with sight loss.

Studies have demonstrated that the symptoms are all inter-related, and that depressive thoughts are as much a part of sight loss as blurred vision or headaches would be regarded.

It is only recently that these Issues have been given equal attention to along with eye-care. It is important to realize that we need to look beyond our own specialties, and collaborate to treat patients as a "person" & not as a condition!

More than a third of visually-impaired people could be suffering from some form of depression which requires immediate attention as it can otherwise lead to further serious problems.It is likely to prevent them from accessing rehabilitation services which could help them get on with their lives.

It also seems that young men or adolescents are the group who are least likely to accept help and who are at most risk of alcoholism and aggressive behaviour, so they're clearly a group we also need to focus on.

Thus, it should become a matter of routine evaluation of visually impaired people, to subject them to objective psychometric tests to identify early markers of mental health problems. If they are found to be suffering from depression or anxiety then they should be referred to experts for treatment with antidepressant drugs. In addition, they should be offered some form of cognitive behavior therapy.

Vision loss or blindness in children always raises concerns about social, emotional, and educational growth and development. Vision loss can have a detrimental effect on the building of relationships with family, friends, and society.

Consider the cultural importance of maintaining eye contact when conversing, and how we use recognition of facial expressions in silent forms of communication. A child with nystagmus or profound visual impairment will have significant challenges with these kinds of issues.

Patients with congenital conditions don't tend to experience the same degree of mourning as patients who lose their sight later on. While both types of vision loss are challenging, the adjustment in acquired conditions creates unique psychosocial impact and loss.

There are obvious physical losses, such as the ability to read a book, drive a car, or orient and mobilize independently. There are also more abstract losses, such as visual proprioception, contact with the environment, light security, and the psychological associations we have with darkness (emptiness, sadness, isolation) that a profoundly visually impaired person is subjected to.

Thus it is critically important to recognize the entire milieu of the visually challenged so as to make efforts in improving the mobility and quality of life of all these people with low vision,either congenital or acquired. Since,vision impairment impacts across a broad spectrum of daily life, the psychosocial impact has to be assessed with the development of tools to better assess its impact on quality of life.

The availability of valid tools is critical to plan and implement appropriate care and to measure outcomes of service.

Outcomes of low-vision care need to include a measure of changes in quality of life. For this, Quality of life needs to be subjectively and objectively better with proper psychological assessment & appropriately given counseling, therapy & drugs.

The standardized tools used, include those that assess mental health conditions such as GAD, PTSD & depression as well as those that detect adjustment issues & psychosocial stress.

There are numerous methods used to assess psychological profiles and health, such as the comprehensive General Health Questionnaire (GHQ), a self-reported perception of physical, mental, and social health.

There are also vision-specific tools such as the Visual Function Questionnaire, which specifically measures health-related quality of life in people with visual impairment. More specific tools include the Diabetes Quality of Life Scale and the Hypoglycemia Fear Survey, which has a specific index for children.

For quick assessment of depression & anxiety, Beck's Depression Inventory(BDI) and State & Trait Anxiety scales are helpful.

All in all, early detection of comorbid psycho social issues & managing them effectively is imperative so that the visually challenged lead healthier & happier lives.

A visually impaired person has so succinctly described his emotional world through these lines….

Being blind can be so scary,
living days with eyes wide shut.
So we must change minds,
seek out to find,
the ones who've given up.
There are those of us who live in fear
as to what the future holds,
who spend their days lock themselves away
and it's time their stories told!

Depression can be a symptom
as we grieve for vision gone,
need love of friends and family
but some of us have none!
It's those we must stand up for
To the world we'll shout out loud,
Let's fight for each others confidence
we are blind, but we are proud!

So if your eyes are fading
Don't let your spirit slip,
Just remember you're amazing
let my words repair the rip!

PREFACE

Globally, it is widely acknowledged that the greatest impediment to the lives of young people with disabilities is prejudice, social isolation and discrimination. They are among the poorest and most marginalised of all the world's young people. While all individuals with disability may be affected by this lifelong cycle of stigma and prejudice, females are at increased risk.

This section provides an overview of the prominent challenges currently faced by disabled young people.

Section 7

Adolescent issues in Children with Special Needs

Challenges in Sexually abused Adolescent and Prevention.

Dr. R.G. Patil
Treasurer COMHAD

Adolescents who are challenged children are vulnerable to sexual abuse and exploitation are mostly seen in the institution where they stay ,the abuse may be in the form of physical,, mental or sexual

This challenge children are especially vulnerable due to their life long dependence on care taker these abuses are seen by close care taker, their needs are not recognized by the society even these specially challenged children lack education regarding sexuality. Children with communication impairment are hampered in their ability to disclose experiences .Hence sexual abuses are more commonly seen.

As a responsible person how we can reduce such abused by the perverted person. first of all it is better to give them sexual education as what is good touch and bad touch awareness of the digital and print media as this influences their growing mind, most of the digital and print media are fabricated and nothing to do sexual activity most of the parent are not solving sexual quires or information as they feel by giving such information this will lead to sexual experimentation but by not giving such information will suppress their sex urge in future .

One way to help , teach people who have mental retardation and mental health needs to understand what is appropriate in regards to sexuality is called “CLASP RULES”(Reference:- Michael A. Mayer, Senior Partner)

C≤ Consensual – People involved are informed about the risks and benefits and has given consent to the activities , they can withdraw the consent at any time if not Consensual it consider as a Rape and it is illegal .

L≤Legal – If they believed it is “Bad” or illegal they should not proceed until they find it is legal

A≤ Adult - Sexual discussions and Contacts and feelings are only acceptable in adults. It is not acceptable between an adult and a child. (Sexual Contact)

S ≤ Safer -These are the things that makes safer it means knowing the person you want to be comfortable by using contraceptive measures and explain risk of sexually transmitted diseases

.

P≤ Private – This is a common misunderstanding in mental retardation they think private means some other places than common places such as jungle , bushes , or any remote places .

Use accurate language for body parts and bodily functions

Be clear when discussing relationship.

Stringent Law and Fast track Court for perpetrators

Laws against the digital and print media showing [porn pictures or other sexual activities

To provide Psychotherapeutic intervention where abuse occur

To respect their Right to live and Appropriate atmosphere .

* * *

Behavioral Modification for Issues in Adolescents with Disability

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Adolescents with chronic illness or disability experience the same developmental transitions as their peers without disabilities, yet their illness or disability places them at risk for certain psycho-social problems as they move into adulthood. The risk is more often related to the degree of fit between the adolescent and his or her environment: family, school, peers, health care services, work, and societal attitude. The fit can lead to optimal integration and development, or it can result in isolation and low self-esteem.

Most families experience a loss and undergo a grieving process when they have a child who is born with, or acquires, a disability. No matter what the disability, families find themselves in "unknown emotional territory with no guides to direct them toward ways to express their grief in a culturally acceptable format". For some families, the chronic care needs of a child with a disability can be overwhelming and never-ending. For those who have a child with a disability, important milestones such as graduation from high school can trigger stress, grief, or fears that impede a vision of normal adulthood.

In addition, the social effects of a disability also impact the parent/child relationship and family dynamics.

It is important for adolescents with disabilities and their families to have information from physicians, teachers, social workers, and other families about adolescent development, and to receive encouragement to create a vision of adulthood. It is also vital that they experience opportunities to share their dreams and hopes, fears and frustrations, and to dialog about their visions for the future. Autonomy, independence, problem-solving, and constructive role-related changes will increase if families can build safety nets amid the fear of life-threatening decisions and risk-taking that are part of the teen experience.

Adolescents with intellectual disabilities may become depressed. They might not have enough language skills to talk about their feelings, and their depression may be shown by new problems, for instance in their behavior, eating and sleeping.

Early diagnosis of psychiatric disorders in children with intellectual disabilities leads to early treatment. Medications can be helpful as one part of overall treatment and management of children with intellectual disabilities.

Periodic consultation with a child and adolescent psychiatrist may help the family in setting appropriate expectations, limits, opportunities to succeed, and other measures which will help their child with intellectual disabilities handle the stresses of growing up.

Behavior Modification is part of a behavioral tradition developed by Pavlov in the early part of the twentieth century. This therapy was adapted by John Watson in 1920 and eventually translated into behavior therapy by researchers and clinicians such as B.F. Skinner and Hans Eysenck in the 1950s. These approaches were later incorporated with cognitive behavior therapy as developed by researchers such as Donald Meichenbaum.

Behavior modification therapy is based on the concepts of

- observable antecedents (events that occur before a behavior is apparent),

- observable behavior, and
- consequences (the events that occur after the behavior occurs).

A behavioral modification program to affect behavioral change consists of a series of stages.

An inappropriate behavior is observed, identified, targeted, and stopped. Meanwhile, a new, appropriate behavior must be identified, developed, strengthened, and maintained.

The key to a successful program of child behavior modification is consistency. And a key piece of behavior modification that parents and teachers can perform is to present their own behavior and reactions in a positive way, so that children can learn and model successful behavior.

The following four points should be incorporated into all three components of behavior modification :

1. Start with goals that the child can achieve in small steps.
2. Be consistent — across different times of the day, different settings, and different people.
3. Implement behavioral interventions over the long period — not just for a few months.
4. Teaching and learning new skills take time, and children's improvement will be gradual.

Positive reinforcement :

Rewarding adolescent with age-appropriate incentives is a valuable way to help his/her change in behavior. This is called positive reinforcement. It involves praising your teen or giving him/her a prize when he/she engages in desirable behaviors. For example, if he/she cleans his/her room without having to be asked several times, reward her with a movie

Negative reinforcement :

Just like with rewards, punishments must be age-appropriate if you want them to change your child's behavior. In addition, they need consistent consequences to help them figure out right from wrong. Ifhe/she chooses to watch television instead of doing homework, he/she isn't allowed to watch her favorite programs for three days. If the same consequence occurs each time a rule is broken, it won't be long before your child starts to change her behavior.

Cognitive Behavior Therapy (CBT)

CBT is usually more focused on the present, more time-limited, and more problem-solving oriented. Indeed, much of what the patient does is solve current problems. In addition, patients learn specific skills that they can use for the rest of their lives. Cognitive behavior therapy helps people to identify their distressing thoughts and to evaluate how realistic the thoughts are. Then they learn to change their distorted thinking. When they think more realistically, they feel better. The emphasis is also consistently on solving problems and initiating behavioral change. Duration of therapy may last from few weeks to many months depending on severity of problem. Childrens visit therapists once a week initially and gradually once every two or three weeks as soon as crisis is over.

Rational Emotive Behavior Therapy (REBT)

As with adults, rational-emotive behavior therapy (REBT) hypothesizesthat children's disturbed emotions are largely generated by their beliefs. The Rational Emotive Behavior Therapy framework assumes that humans have both rational and irrational tendencies. Irrational thought/images prevent goal attainment, lead to inner conflict, lead to more conflict with others and poor mental health. Rational thought/images lead to goal attainment and more inner harmony. In other words rational beliefs reduce conflicts with others and improved health.Irrational beliefs and distortions of reality are likely to create anger,anxiety, and depression in children just as they do with adults. In fact, because children are immature, less sophisticated, and less educated—one might expect them to make more cognitive errors than adults andto become upset more easily.Child-oriented REBT practice has always taken into account the child'scognitive-developmental status in selecting appropriate cognitive assessmentand intervention procedures. When assessing emotions in children, it is important to normalize and validatetheir feelings. It is important for you to explain that everyone gets angry,worried and sad from time to time and that there is nothing wrong with themor bad about them if they get extremely upset. Later on, you will, of course,discuss the negative aspects of getting extremely upset as a way to motivatethe child to work on emotional change. The practitioner has the tasksof (1) helping children to be more aware of their feelings and (2) enablingthem to tune into and report their self-talk.

For behavior modification in adolescent with ADHD can be done with the help of parents, teachers. Peers etc.

1. Classroom rules

- Be respectful of others.
- Obey elders
- Work quietly.
- Stay in assigned seat/area.
- Use materials appropriately.
- Raise hand to speak or ask for help.
- Stay on task and complete assignments.
- Post the rules and review them before each class until learned.
- Make rules objective and measurable.
- Tailor the number of rules to developmental level.
- Establish a predictable environment.
- Enhance children's organization (folders/charts for work).
- Evaluate rule-following and give feedback/consequences consistently.
- Tailor the frequency of feedback to developmental level.

2. Praise of appropriate behaviors and choosing battles carefully

- Ignore mild inappropriate behaviors that are not reinforced by peer attention.
- Use at least five times as many praises as negative comments.
- Use commands/scolding to cue positive comments for children who are behaving appropriately - that is, find children who can be praised each time a reprimand or command is given to a child who is misbehaving.

3. Appropriate commands and oral punishments

- Use clear, specific commands.
- Give private scolding at the child's desk as much as possible.
- Scolding should be brief, clear, neutral in tone, and as immediate as possible.

4. Individual accommodations and structure for the child

- Structure the classroom to maximize the child's success.
- Place the student's desk near the teacher to facilitate monitoring.
- Enlist a peer to help the student copy assignments from the board.
- Break assignments into small chunks.
- Give frequent and immediate feedback.
- Require corrections before new work is given.

5. Proactive interventions to increase academic performance–Such interventions can prevent problematic behavior from occurring and can be implemented by individuals other than the classroom teacher, such as peers or a classroom aide. When disruptive behavior is not the primary problem, these academic interventions can improve behavior significantly.

- Focus on increasing completion and accuracy of work.
- Offer task choices.
- Provide peer tutoring.
- Consider computer-assisted instruction.

6. “When-then” contingencies (withdrawing rewards or privileges in response to inappropriate behavior) – Examples include recess time contingent upon completion of work, staying after school to complete work, assigning less desirable work prior to more desirable assignments, and requiring assignment completion in study hall before allowing free time.

7. Daily school-home report card – This tool allows parents and teacher to communicate regularly, identifying, monitoring and changing classroom problems. It is inexpensive and minimal teacher time is required.

- Teachers determine the individualized target behaviors.
- Teachers evaluate targets at school and send the report card home with the child.
- Parents provide home-based rewards; more rewards for better performance and fewer for lesser performance.
- Teachers continually monitor and make adjustments to targets and criteria as behavior improves or new problems develop.
- Use the report card with other behavioral components such as commands, praise, rules, and academic programs.

8. Behavior chart and/or reward and consequence program (point or token system)

- Establish target behaviors and ensure that the child knows the behaviors and goals (e.g., list on index card taped to desk).
- Establish rewards for exhibiting target behaviors.
- Monitor the child and give feedback.
- Reward young children immediately.
- Use points, tokens or stars that can later be exchanged for rewards.

9. Classwide interventions and group contingencies –

- Establish goals for the class as well as the individual.
- Establish rewards for appropriate behavior that any student can earn
- Establish a class reward system in which the entire class (or subset of the class) earns rewards based on class functioning as a whole (e.g, Good Behavior Game) or the functioning of the student with ADHD.
- Tailor frequency of rewards and consequences to developmental level.

10. Time out – The child is removed, either in the classroom or to the office, from the ongoing activity for a few minutes (less for younger children and more for older) when he or she misbehaves.

11. Schoolwide programs – Such programs, which include schoolwide discipline plans, can be structured to minimize the problems experienced by children with ADHD, while at the same time help manage the behavior of all students in a school.

Adolescent counseling touches many significant developmental , gender related, career related and health as well as mental health related issues. Helping teenagers to develop healthy coping mechanisms and contributing to their overall personality development.

* * *

Developing Self Esteem in Adolescents with Disability

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Self-esteem is a major key to success in life. The development of a positive self-concept or healthy self-esteem is extremely important to achieve the happiness and success. Self-esteem is how we feel about ourselves, and our behaviour clearly reflects those feelings.

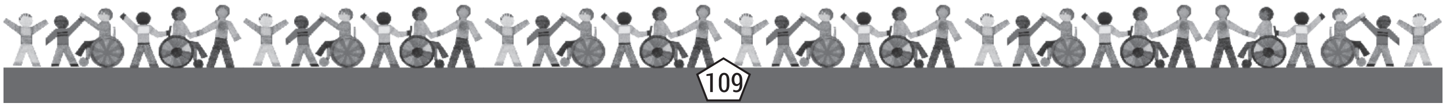
People with high self-esteem will be able to :

- act independently
- assume responsibility
- take pride in their accomplishments
- tolerate frustration
- attempt new tasks and challenges
- handle positive and negative emotions
- offer assistance to others

On the other hand, a person with low self-esteem will:

- avoid trying new things
- feel unloved and unwanted
- blame others for his own shortcomings
- feel, or pretend to feel, emotionally indifferent
- be unable to tolerate a normal level of frustration
- put down his own talents and abilities
- be easily influenced

Adolescence being a vulnerable state of body & mind but still supposed to be one of the 'Life Changer' phases in everyone's life and if this state is accompanied by any disability may it be physical or mental has great impact on developing Self Esteem of that individual. Contrary to popular opinion, adolescence is not a time of turmoil and strife for most individuals when the environment meets the psychological needs of adolescents, who are asserting their independence in all ways (physically, socially, cognitively, and emotionally), adolescence can be a relatively "smooth" period of transition between childhood and adulthood. During late adolescence, most young people with average cognitive ability start careers or begin higher education, move away from home, develop their personal relationships, and consolidate their identities. These developments ultimately influence their quality of life, happiness and success in life. Hence developing self esteem in adolescents is an important issue in itself.



Adolescents with disabilities have the same desires and aspirations as other adolescents. Most adolescents with disabilities want what all adolescents generally want in life - happiness, meaningful occupation, fulfilling relationships, independence, being believed in, and being accepted by others. However, they will have difficulty in attaining these goals due to prejudice, lack of skills, and their current weak economic conditions.

Following are the factors which may be considered to influence development of self esteem-

- The external sphere (i.e., employment, education, and independent living)
- The interpersonal sphere (i.e., marriage and relationships)
- The personal sphere (i.e., self-esteem and self-concept, social isolation)

External and interpersonal spheres : Compared with adolescents without disabilities, those with disabilities are less likely to have social networks and friends, participate in recreational activities, attend college and live independently. Various studies of adults indicate that only 30 to 50 percent of adults with physical disabilities are engaged in paid employment and no more than 40 to 45 percent live apart from their parents. Thus, adults with physical disabilities face both social and economic disadvantage tell us about what adolescents may face in the future.

Personal sphere : On the personal level, research clearly shows that adolescents who have disabilities are at risk for social isolation. Their leisure pursuits tend to be passive and solitary. In a number of studies, females with physical disabilities have rated themselves as particularly low in social acceptance which may lead to social isolation and feelings of loneliness.

The basics for helping teens with disability to improve their self-esteem start in the family as acceptance of that disability as different ability by their parents as well as themselves. Whenever necessary they should seek help of the health professional to improve self-esteem. Disabilities are only limiting to the extent that constraints are imposed in the physical and social environments. We need to apply this philosophy to all the rehabilitation services we provide. Thus we need to work in partnership with adolescents and listen to their concerns and needs as well as provide specific types of services in a style i.e. family-centered or client-centered

Two of the key principles of family-centered service are that teens should :

(1) lead the decision-making process concerning the type and amount of support and services they receive, and
(2) be treated with respect.

Rather than trying to “fix” adolescents so that they can meet the expectations of society, we should focus on eliminating barriers in the physical, social, and institutional environments. This involves activities such as educating others and working to change attitudes so that individuals with disabilities are believed in and are accepted by others, as well as advocating for physical accessibility and progressive employment criteria and practices.

Thus, we should accommodate their abilities and needs by working to change disabling environments. Partnerships need to be fostered between rehabilitation professionals and community groups as well (such as attendant care, supportive volunteer groups, transportation services) to address these issues.

Some useful tips for adolescents to improve self-esteem may be

- **Maximize the positive and minimize the negative :** Focus on your abilities more than your limitations. Everyone has both abilities and limitations. This is not to say that you don’t acknowledge that you have a disability, but rather, by focusing on and developing your abilities you can feel good about all the things you can do.
- **Avoid unrealistic comparisons :** Don’t get caught up in comparing apples to oranges. Everyone has both strengths and limitations.

e.g. A person with a locomotor disability may not be able to compete in Olympic hockey, but he or she can compete in Paralympic hockey.

- **Set realistic goals for yourself :** Since everyone has limitations, it is not fair to expect yourself to be able to do something unrealistic. This may mean allowing yourself to take the extra time needed to read material and rewarding yourself for persevering. It may not be realistic to expect yourself to read something in the same amount of time as someone without a reading disability.
- Do not over-generalize: If there is something that you cannot do as a result of your disability, it is not fair to conclude that you are an overall failure. There are many things that you can do. Don't tie all of your self-worth to any one attribute or event. Just because you might be a lousy cook does not mean that you are a lousy person in general.
- Avoid getting caught using "should" statements: For example, a student with ADHD says, "I should be able to finish this exam in 50 minutes like everyone else in the class." This is an example of a "should" statement that may not be accurate. Accommodations like extra time on tests are an important tool to create equal opportunities for students to show what they know.
- Appreciate yourself - all of yourself: This means appreciating your disability too. There may be times when you believe that it is more annoying than appreciable, but focus on the positive aspects of your disability. One way to do this is making a list of your strengths including how your disability, or your methods of coping with it, can be an asset.

Similarly the "Three Fs" of positive parenting (Discipline should be fair, firm and friendly) need to be practiced.

- Helping the child clarify the problem by asking him questions that pinpoint how he sees, hears, and feels about the problematic situation and what decision needs to be taken to modify the situation.
- Brainstorming the possible solutions. Usually there is more than one solution or choice to a given dilemma, and the parent can make an important contribution by pointing out this fact and by suggesting alternatives if the child has none.
- Allowing the child to choose one of the solutions only after fully considering the consequences. The best solution will be one that solves the problem and simultaneously makes the child feel good about himself or herself.
- Later joining the child in evaluating the results of that particular solution. Did it work out well? Or did it fail? if so, why? Reviewing the tactics will equip the child to make a better decision the next time around.

After all we need to remember that adolescents with disabilities are adolescents first. Like everyone, adolescents want to be happy. Adolescents with disabilities may not attain all their goals in life, but it is important for them to try, and for them to understand the obstacles they face. As health professionals we can help to provide this knowledge and guidance to make their life from miserable to pleasurable.

* * *

Career Options for Persons with Disability

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Career ,job ,business, employment and work are the important aspect of adult life. It is no different in case of persons with disability. All individuals , irrespective of their level and type of disability should be given an opportunity to prepare themselves for some or the other career option. With increasing awareness, provisions and facilities as well advanced technology, the chances of getting employment for persons with disability are definitely better. Preparing students with disability for workplace needs a comprehensive trans disciplinary vocational assessment with emphasis on post school planning. If the person with some variety of disability is able to recognize his strongest abilities and skill, definitely he / she will be able to find a suitable career. As well, with increasing awareness, even the society is willing to accommodate PWD in variety of job settings. In fact many corporate sectors are offering special jobs for PWD.

Persons with disability needs to empower himself with certain specific vocational / academic skills to fit into the right kind of job. As we can see, there are different types of disabilities resulting in limitation of activities, capacities and functions. Hence it is equally important for the individual to be aware of his skills as well as his limitations.

The following areas need to be considered, before actual employment is planned. This will help in better acceptance and adjustment .

* awareness of interest / aptitude
* exposer to career options
* assessing and building skills
* extensive and individualized support from society
* comprehensive vocational assessment
* academic skills
* daily living skills
* personal and social skills
* occupational and vocational skills
* career maturity
* adoption of the principals of inclusion, non-discrimination and accomodation

Here are certain work areas which are suitable for specific disabilities. It is important to note that, these professions are just the ideas where PWD can work. But, if the PWD decides to work up upon his /her abilities, then they can definitely expand their horizons to find vocation in variety of fields.

Persons with physical disability- these individuals are really fit to work in areas of administration, accountancy, pharmacy, work from home jobs. Computer technology is a real boon for these individuals, where they can have variety of options like graphic designing, DTP, web designing and related with social media as well.

Persons with ID / cognitive disability-These individuals can work in sheltered workshops / units like file, chalk ,phenyl making etc. They can also be trained to work in catering units ,gardening, veterinary assistants or helpers in shops etc.

Persons with visual impairment- These individuals need to find employment in areas where, spoken language and listening skills are required. Thus fields like music (verbal / instrumental) telephone operator, teaching etc can be considered.

Persons with hearing impairment-These individuals can find lot of scope in performing arts, craft, as an artists. Also they can find jobs in the field of designing, technical jobs like ITI, or in sports as well.

Persons with psychiatric or emotional problems-Having a job can be greatly therapeutic to these individuals. They are more comfortable in jobs which do not require lot of social interaction. Hence jobs related with physical training, massaging, computer technology, veterinary fields are more suitable.

It is very important for family, society and the employer to understand the abilities as well as certain limitations of PWD and make a positive effort to promote employment foe them. Having a suitable job can go a long way in constructive rehabilitation of persons with disability.

Conclusion-

For the successful rehabilitation of any individual with disability ,a structured programme is essential which should have...

Commitment and vision
Information gathering
Setting goals
Designing the action plan
Implementing the plan
Evaluation of the plan

Section 8

Parenting and career guidance for Children with Special Needs

Handling Parental Stress

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The parents of an adolescent who is developmentally challenged have often described their plight in handling their growing child as a "nightmare that never ends"!

As it is they have withstood the ordeals of accepting, adjusting & coping positively with the upbringing of their challenged child, when he/she was young. The parents not only mourn the loss of unfulfilled expectations but often face enormous strain on their psychological & economic resources. The chronic disability which is likely to continue indefinitely and is attributable to physical/ mental impairment results in substantial functional limitations in many areas like

Self-care
Receptive & expressive language
Learning
Self-Directions
Mobility&
Capacity to live independently.

With the advent of puberty & adolescence, fresh issues related to sexual maturity, menstruation, abuse, stubbornness, arrogance, mood swings & emotional labiality, search for identity& its societal impression, career & financial self-dependence are the multiple issues so suddenly thrown at the family that the coping often becomes very difficult. The parents continuously face the dilemmas in dealing with an adolescent who shows physical growth spurt but suffers from language, cognitive, behavioral or emotional disturbances in addition to the long standing physical or mental disability. Raising a developmentally challenged adolescent is thus far more stressful as there has to be a reorientation of expectations of parents & new& effective coping strategies have to be adopted by them. This leads to the generation of remarkable stress in parents. The sources of stress need to be carefully identified so as to plan actively & positively to tackle the stressors & strengthen the skills of the parents.

The stressors commonly identified are both general & specific. Arrangements regarding vocational education, admission in an appropriate institution to learn pre vocational skills, daily secure transport to & froor managing home based learning requires substantial amount of money; hence low socio economic condition adds to the woes of the family.

It is often imperative for both parents to work; therefore a small nuclear family with a developmentally challenged adolescentcreates a lot of stressful situations in the day to day management.

The age of parents also is a source of stress if the parents are middle aged or beyond as they feel physically & emotionally incapacitated to deal with an aggressive & stubborn adolescent.

The caring for a challenged adolescent requires healthy interaction within the family with members supporting each other emotionally on aday to day basis. Instead of this, if the communication within the family is sparred with blame games, the resultant stress is more debilitating for everyone.

The normal siblings, elder or younger to the adolescent have to make a lot of social adjustments. They have to deal with the disruptive behavior of their challenged sibling & face embarrassment in public when their friends visit them. This can lead to their social withdrawal. They may develop anxiety, aggression, somatization, depression& behavioral problems therein.The parents then have to face situations ridden with guilt, anger & hopelessness.

Parents adopt various coping strategies in dealing with their peculiar situation. Denial/acceptance of the situation, engagement coping/disengagement coping, distraction coping/ active coping, cognitive reframing & positive planning, empowering strategies versus social withdrawal, rearranging life & relationships, changing expectations, seeking emotional support groups are a variety of modes parents adopt to deal with a disabled in a family. Some of the strategies like denial, disengagement & social withdrawal are harbingers of stress.

The stress that parents & family face is manifested in parents in various ways:

Biological : Fatigue, exhaustion, Cardiovascular strain, GI upsets, reduced appetite & vulnerability to illness

Psychological : Cognitive & emotional effects such as shock, night terror, irritability, anger, helplessness, impaired concentration, confusion, reduced self-esteem, & reduced self-efficacy

Socially : Disruption in family, decrease in social interaction, reduced recreation.

The levels of stress generated depend on a no; of factors which include severity of disability, psychological makeup of parents, self-determination & intellectual functioning of parents, availability & quality of professional services, religious beliefs & attitudes, family size & its socioeconomic status, social support from friends & relatives& good marital interaction. The families which can mobilize internal & external support can adapt better to the situation. How a family adapts to stress is beautifully explained by Hills(1970) model, called ABCX model., where A is the stressor, B denotes family resources, C is family's definition of stressor events X is the crisis situation.

The five domains of quality of life in such families if carefully looked into & tackled with a positive attitude can help parents handle their stress better :

Disability related support

Physical well being

Emotional well being

Healthy interaction within family &

Efficacy of parenting skills.

Adoption of certain coping strategies & principles of behavior help to increase the resilience & reduce the parental stress. Coping is defined as constantly changing cognitive & behavioral efforts to manage specific internal & external demands that are appraised by an individual as "taxing" or exceeding the resources of a person. The different type of coping strategies the family adopts finally determines the efficiency of managing stress. The stress & coping are inversely related to each other. The strategies which are adopted can be internal & external. They are

Problem Oriented coping : the behavior & environmental factors are appropriately changed to deal with the situation.

Emotional regulation coping : Aimed at reducing emotional distress & maintaining a satisfactory internal state.

Task oriented coping : involves conscious efforts taken to reduce stress cognitively & behaviorally.

Sense of coherence coping : It involves coping on three dimensions of comprehensibility, manageability & meaningfulness in life while facing a chronic problem in life.

Purpose in Life coping : involves consideration of individual's experience of having clear & stable goals in life.

Avoidance & Distraction coping : running away from the situation & reasonable solutions to a problem.

Except the last one, the other coping strategies generally help in reducing the stress & bring it down to a level which can be effectively managed.

All in all, if the parental stress is to be managed well, the parents need to do the following things:

- Seek knowledge & awareness &Keep yourself updated on your child's disability
- Locate resources which can help your child
- Communicate your feelings to your family
- Reach out to other parents in similar situations
- Join a support group for emotional well being
- Plan & try to stick to a daily routine
- Take one moment at a time in dealing with precarious situations
- Relax, rest & take good care of yourself
- Involve siblings in care
- Use humor & pursue some hobby
- Practice resilient behavior strategies
- Adopt a positive attitude towards life

If we consider strategies as labels, following labels enrich the life & help reduce the stress:

"Planning & knowledge is Power"

"Share the load"

"Lift the restraining labels"

"Me time"

"Recognize the joys"!

* * *

Parenting in children with special needs...

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Life has been conceptualised as a journey where we have junctions like childhood, adolescence, adulthood and senescence, in the same way parenting can also be considered as a train where a parent is the guide in the journey of the child to adulthood.

Parenting is a challenging task under any circumstances. However, when a child is born or diagnosed with special needs, parents or their primary caregivers can face with even more unexpected challenges. Although their experiences may differ, many parents have similar emotional dynamics. Therefore, parents have to be aware of the various emotions involved, learn how to address them and realise that their experiences and feelings are normal.

Hence highlighting some of these challenges and suggests ways to overcome them.

Among the many challenges a few are listed as follows:

- Learning about the disability.
- Researching, locating and accessing effective treatments and resources
- Coping with the emotional and physical demands of caring for the special needs of the child.
- Getting to the innumerable appointments with medical providers, therapists, and school personnel.
- Paying for the many treatments and interventions not covered by health insurance or the school system.
- Finances are often a source of stress. Frequently one parent, usually the mother, sacrifices her career to attend to the child's needs with a resulting loss of income for the family.

The emotional impact of such challanges is enormous and may include:

- Fear and worry about:
    - The child's pain and suffering.
    - The child's future.
    - The question of whether you are doing enough or doing the right things to help the child.
- Guilt over:
    - The limits of your ability to protect the child.
    - The loss of attention toward other children, your spouse and aging parents
    - Your jealousy and resentment of those with "normal" children.

- Feelings of isolation because you:
    - Miss out on many family-oriented activities because your child's disability prevents her/him from successfully participating.
    - Encounter criticism and judgment of your parenting from others who don't understand your child's disability.
    - Feel like an outsider around parents of typically developing children.

- Grief over: Parents may grief the loss of the 'perfect baby'. They could be filled with a sense of nadequacy because they feel ill-prepared to cope with both their 'loss' and the child's disability. Parents could feel anger towards themselves or the child for the condition.
    - The loss of hopes and dreams you had for the child.
    - Not having the parenting experience you'd imagined.
    - Recurrent reminders of what your child misses out on leading to chronic sorrow.

<u>Suggestions for self-care and support:</u>

- One way for a person to have hope during challenging times is to have goals.
- With goals, parents would be able to focus on their child's achievements, however tiny these successes are, such as being able to drink two sips of milk instead of one.
- It is also helpful to equip themselves with the relevant knowledge and skills in taking care of their children, via books, the Internet or engaging in active discussions.
- To find a support system by meeting and interacting with other families of children with special needs. Learning from one another can be very empowering for the parents as they go through similar journeys in caregiving.
- They need to surround themselves with nurturing people that are accepting of the child and parenting choices.
- To be sustained through the marathon of caring for a child with special needs, it is essential that parents attend to their own needs and their need for refueling is also greater.
- Managing finances is also very important for which strategic economical planning is needed.

The relationship between hope and cope is dynamic and reciprocal. But once the situation is accepted by the parents, it serves as the first step to overcome it. Sometimes it is necessary to focus more on the efforts instead of the results, as the saying goes 'It is the journey that counts, not the destination'.

* * *

Career Guidance for Persons with Disability

By

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Work is an important aspect of adult life. It is believed that each individual is of great capacity and dignity. Hence every person should have equal opportunity to maximize his potential for better employment.

Career ,job, work or employment; known as by many names provides not only economic independence, but is also important to develop one's self esteem and self worth. It is a mean for achievement, satisfaction-personal as well as social, and a medium to satisfy creative urge and of course for financial safety and security.

Career development is an ongoing process of gaining knowledge and improving skills that will help an individual to establish a career plan. Same is the case with 'persons with disability (PWD). But, it becomes necessary to provide specialized guidance for career to PWD as they have special needs. Effective and responsible career guidance can significantly impact and empower PWD. If done at various levels of education, vocation and employment, it can provide a very satisfying and rewarding career for PWD.

This is important because, lack of career opportunity will lead to low income dependency on others low self esteem frustration behavioural problems psychiatric problems, etc

In todays world of globalization, industrialization, increasing technology and migration, for PWD it becomes a two way sword. On one hand technology may assist PWD, but on the other hand, if these skills are not mastered, then it will be a major hindrance for employment.

Some of the barriers in employment of PWD are....

Limitation in early life experiances

Difficulty in making decisions

Low/poor self esteem

Lack of opportunity to test their confidence

Limited social experience

Limited sense of self sufficiency

Limited saleble work skills

Low income

Lack of proper information

Transportation facilities and mobility restriction

Public accommodation and services

Classification or labeling based on disability rather than ability

Every individual goes through following career stages

0 to 10 yrs—fantasy

11 to 13 yrs—interest

13 to 14 yrs—capacity building

15 to 17 yrs—exploration

18 to 21 yrs—transition

21 to 24 yrs—trial

25 onwards—career established

Factors to be considered during career guidance of PWD are….

Any type of disability can usually be associated with mild cognitive deficit though not always

Person may have faced problems in acquisition of academic skills like reading/writing or arithmetic

Person many have faced problems in listening skills ,comprehension ,use of advanced linguistic skills or use of modern technology like computers.

Person may have problems in communication, like following or giving instructions. Communicating instructions in office structure or in understanding and processing of information.

Other important things to be considered are

Lack of vocational or occupational skills

Limited saleble work skills

May have problems in

How to look for job

Finding job opportunities

Writing C.V./other paper work

Managing disability at work place/finding support

High percentage of school dropouts

Failure to develop a consistant, differentiated personality

Career counseling for PWD can be divided in two phases;

Phase 1 —

Identification and understanding of disability as well as ability

Assessment of— academic skills
Daily living skills
Personal/social skills
Occupational/vocational skills
Vocational interest
Vocational aptitude
Career maturity
SWOT analysis

Phase 2—

Collecting information
Providing appropriate information
Decision making
Goal setting
Plan of action
Evaluation of complete process

Conclusion — Career development is an ongoing process of gaining knowledge and improving skills that will help an individual to establish his career path. It is important to develop an empowerment approach to career counseling in assisting PWD to achieve their career goals and resolving their career problems

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* * *

PREFACE

Inclusive education as a fundamental way towards the advancement of Education For All (EFA) and life-long learning. Inclusive education is a child's right, not a privilege. The Individuals with Disabilities Education Act clearly states that all children with disabilities should be educated with non-disabled children their own age and have access to the general education curriculum. Section 9 elaborates the philosophy and various laws related to Inclusive education.

With the advances in medical science there is lot of scope in improving the functional outcome of a child with disability, with help of surgery and orthopaedic interventions. They are discussed in depth in section 10.

Section 9

Inclusive Education and disability laws in india

Inclusive Education-Philosophy

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"My path may be tough & the journey may be different....
But I know...
I do not walk alone !"

How beautifully these lines depict the thoughts of a person with disability, when he is assured of his or her acceptance, inclusion & appreciation by the society !

The concept of inclusive education exactly embodies this philosophy of helping all children with or without disabilities to participate & learn together in the same classes which makes learning more effective for both.

For a long time, children with disabilities were educated in separate classes or in separate schools. People got used to the idea that special education meant separate education. But we now know that when children are educated together, positive academic and social outcomes occur for all the children involved.

A sizable body of Research shows, that when a child with disabilities attends classes alongside peers who do not have disabilities, good things do happen. This has not only generated a lot of interest in finding out meaningful ways of inclusion of children with disability but has also paved ways in sensitizing policy makers towards framing laws for implementation of inclusive education for all.

We have reached the tipping point where it is no longer educationally or morally defensible to continue to segregate students with disabilities.

In fact,we shouldn't be striving to educate children in the least restrictive environment but rather in the most inclusive one!

The achievement of students without disabilities is not compromised by the presence of students with disabilities in their classrooms. Some studies even show that implementing inclusion on a school wide basis improves achievement for all students. And just as important as academic outcomes, the attitudes and values that all students learn when they are educated together are !

How children are treated in schools often mirrors how they will be treated in later life.

As with other minorities, segregated school placements lead to a segregated society, whereas inclusion in the earliest years promotes increased opportunity and greater understanding of differences for all involved.

A society that separates its children (during their school years) is likely to maintain those separations indefinitely, reinforcing attitudinal barriers to disability in all aspects of life! Inclusion, on the other hand, is founded on social justice principles in which all students are presumed competent and welcomed as valued members of all general education classes and extracurricular activities in their local schools — participating and learning alongside their same-age peers in general education instruction based on the general curriculum, and experiencing meaningful social relationships.

Disability is to be considered to be a natural part of the human experience and in no way diminishes the right of individuals to participate in or contribute to society.

Improving educational results for children with disabilities should be an essential element of any national policy of ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities.

When students with disabilities spent more time in a general education classroom they were more likely to score higher on standardized tests of reading and math; have fewer absences from school; experience fewer referrals for disruptive behavior; and achieve more positive post-school outcomes such as a paying job, not living in segregated housing, and with having a broad and supportive social network.These results were true regardless of student's disability, severity of disability, gender or socioeconomic status.

We now know that inclusion works, but we also know that simply placing children with and without disabilities together does not produce positive outcomes.

Inclusive education occurs when there is ongoing advocacy, planning, support and commitment to this philosophy! Not only do we know inclusion works, we know how to make it work.There are resources for teachers and administrators from large, urban schools on how to implement inclusive education. One can find hundreds of books, research articles, guidelines for inclusive practice, testimonials from students with and without disabilities, teaching strategies, and strategies for designing instruction and assessment for all learners to help guide the students & teachers.

There are certain guiding principles that qualify inclusive education:

All children belong !

Every child and family is valued equally and deserves the same opportunities and experiences.

*Inclusive education is about children with disabilities – whether the disability is mild or severe, hidden or obvious – participating in everyday activities, just like they would, if their disability were not present. *It's about building friendships, membership and having opportunities just like everyone else. *All children learn in different ways.*

*Inclusion is about providing the help children need to learn and participate in meaningful ways.

Sometimes, help from friends or teachers works best. Other times, specially designed materials or technology can help.

*The key is to give only as much help as needed. *It is every child's right to be included.* *Inclusive education is a child's right, not a privilege.* The Disabilities Education Act clearly states that all children with disabilities should be educated with normal children of their own age and should have access to the general education curriculum.

Inclusion as a holistic vision :

Any child may experience a special need during the course of educational years (UNESCO).

Some children feel 'left-outs' and never enter school or enter only for a few years and, as repeaters, become 'drop-outs' or, more correctly 'pushed-outs', without their needs having been met.

These children are a vivid illustration of the failure of schools to teach rather than the pupils' failure to learn.

A school system emphasising 'Education for All' should ensure the right of all children to a meaningful education based on individual needs and abilities.

The regular schools should increasingly play a major role in making provision for children with special educational needs available nation-wide.

Making the school system flexible and adopting an inclusive approach may, however, prove the most challenging task of all, a task calling for deep reflection and discussion of the two fundamental questions:

"What is the overall role of education", &
"What is it we want children to learn in school?"
It might lead to the need of reforming the school system as a whole from a traditional, examination-oriented to an inclusive, child-oriented approach.

Policy & Reality

Though many educational experts now increasingly vouch for inclusive education, in reality, there are many obstacles in its effective implementation in schools. To open up the regular school system to disabled children is not an easy task. The policy on inclusion and mainstreaming can easily become "main dumping" if not implemented carefully.

In fact,a big gap exists between the ideal situation and the present reality.

There is an urgent need for interventions for equipping general teachers with special skills & making general curricula, teaching methods, Evaluation procedures & learning material more “disability-sensitive.”

Addressing the attitudes /needs of other children in the school to ensure such interventions benefits all children,is also equally imperative.

There are certain long standing myths about inclusion, which have been busted by many studies, world over.

Myth 1 : Separate is better.
Reality : Segregation doesn’t work. Whether children are separated based on race, ability, or any other characteristic, a separate education is not an equal education. Research shows that typical children and children with disabilities learn as much or more in inclusive classes.

Myth 2 : Children must be “ready” to be included.
Reality : All children have to the right to be with other children their own age. A child with disabilities does not have to perform at a certain grade level or act exactly like the other children in their class to benefit from being a full-time member in general education.

Myth 3 : Parents don’t support inclusive education.
Reality : Parents have been and continue to be the driving force for inclusive education. The best outcomes occur when parents of children with disabilities and professionals work together. Effective partnerships happen when there is collaboration, communication and, most of all, TRUST between parents and professional is the key.

Thus,it is important to have a holistic, comprehensive and inter-sectoral approach where all pieces are put together. It is not enough to present and implement one part only. An inclusion policy cannot stand-alone and cannot be a substitute for careful planning of interventions and systematic capacity-building for the implementers of these interventions. Thus,the curriculum for "ALL" needs to be:

Children centred :

Children with disabilities need child-centred curriculum, which takes into account the individual needs of children. The curriculum needs to set specific, observable, measurable and achievable learning outcomes (SOMA).

Flexible :
A flexible, locally relevant curriculum, teaching and learning strategies are intrinsically important for children with special needs to participate in the educational process.

Participatory :
Children with special needs require a learning environment in which they can actively participate in learning in small groups learning settings. To make such opportunities available to them, requires a positive outlook on the part of the school authority.

Partnership with parents
is a key factor as children learn not only in the classrooms but also at home.So proper sensitization of parents & bringing them into the loop of a humane approach is essential.
Finally, it should be envisage a

Holistic vision :
Whereby the inclusion is not treated as a problem but as a path towards an increasingly sensitive & open minded approach by society towards disability as a whole !
The starting point of any discussion on inclusion should always be what is best for the particular child. Another point to remember is, emphasising inclusive education does not rule out special schools or centres. They would still be required to cater to children with profound and complex difficulties in need of more specialised and extensive help, for e.g. many deaf children. This alternative should, however, not be considered, unless classroom placement cannot meet their needs.

In line with the new policy of inclusive education, special schools will begin to function more and more as resource centres. They involve in outreach programmes, where they draw on their vast experience and knowledge. They link their activities with those of the regular schools, the families, and the communities.

Inclusive education services allow children with disabilities to stay with their family and to go to the nearest school, just like all other children. This circumstance is of vital importance to their personal development. Interrupting a disabled child's normal development may have far more severe consequences than the disability itself.

In this context, it is important to stress the role parents have. They have a right to be involved in all decision-making concerning their child. They should be seen as partners in the education process. Where there is such co-operation, parents have been found to be very important resources for the teachers and the schools.

As a rule, there are a number of practical problems that have to be solved before a child with special educational needs can go to school or take part in school activities. The arrangements it takes are fairly simple, provided coordinated local and unconventional initiatives are stimulated. One should also remember that the child's schoolmates represent a valuable potential partner who is ready and able to help in overcoming some of these problems. Finally, let's understand the difference between the two approaches in the following overview:

Traditional Approach :	**Inclusive Education Approach :**
Education for some	Education for all
Static	Approach is Flexible
Collective teaching	Individualised Teaching
Learning in segregated areas	Learning in Integrated areas
Emphasis on teaching is subject-orientated	Emphasis on learning is child-centred

Emphasis on teaching is subject-orientated	Emphasis on learning is child-centred
Opportunities are limited by exclusion	Holistic
Diagnostic / prescriptive	Equalisation of opportunities for all
Labels children disability wise	Planning is made on ability levels and opposes all kinds of labelling
Disability approach	Inclusive Approach

Conclusion

Inclusive education responds to all pupils as individuals, recognizing individuality as something to be appreciated & respected.

Such education responding to special needs will thus have positive returns for all pupils. All children and young people of the world, with their individual strengths and weaknesses, with their hopes and expectations, have the right to education. It is not our education systems that have a right to a certain type of children. Therefore, it is the school system of a country that must be adjusted to meet the needs of all its children. Though this is a daunting and difficult task, but as it is rightly said

"where there is a will there is a way!"

* * *

Inclusive Education: Disabilities Laws & Implementation : Indian Scenario

Dr Urmila Dahake
Developmental Pediatrician, MD Pediatrics,
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Education is a powerful instrument of social change, and often initiates upward movement in the social structure. Thereby helping to bridge the gap between the different sections of society. Education is the right of every child because it equips him to meet the challenges of life. The children with disabilities (CWD) need this all the more, to supplement their differential talents so that they can prepare themselves for a happy productive and useful life.

The educational scene India has undergone major change over the years, resulting in better provision of education and better educational practices. Efforts to educate children with disabilities began soon after independence in India. In 1944, the **Central Advisory Board of Education (CABE)** published a comprehensive report called the Sergeant Report on the post-war educational development of the country. **District Primary Education Programme (DPEP)** document defined child with various disability and classified disabilities, namely, visual, hearing, locomotor, and intellectual (DPEP, 2001). In the 1970s, the government launched the Centrally Sponsored Scheme of **Integrated Education for Disabled Children (IEDC).** The scheme aimed at providing educational opportunities to learners with disabilities in regular schools, and to facilitate their achievement and retention. The objective was to integrate children with disabilities in the general community at all levels as equal partners to prepare them for normal development and to enable them to face life with courage and confidence. A cardinal feature of the scheme was the liaison between regular and special schools to reinforce the integration process.

UNICEF's Report on the Status of Disability in India 2000 states that there are around 30 million children in India suffering from some form of disability. The Sixth All-India Educational Survey (NCERT,1998) reports that out of India's 200 million school-aged children (6–14 years), 20 million require special needs education. While the national average for gross enrolment in school is over 90 per cent, less than five per cent of children with disabilities are in schools. According to the Census 2001, there are 2.19 crore persons with disabilities in India who constitute 2.13 percent of the total population. This includes persons with visual, hearing, speech, loco-motor and mental disabilities. According to **the Education for All (EFA)** Global Monitoring Report 2010: reaching the marginalized, children with disabilities remain one of the main groups being widely excluded from quality education. Disability is recognized as one of the least visible yet most potent factors in educational marginalization.

The United Nation's Convention on the Rights of Persons with Disabilities (UNCRPD), which was entered into force in 2008, was ratified by India in October, 2008. Despite this, the change has been slow, with segregation in special schools dominating the scene until recently. Let's have a brief look on various Inclusive Education Policies and there implementation in India.

The 1995 **Persons with Disability Act (PDA)** states that disabled children should be educated in integrated settings where possible, although it seems that the lack of implementation may be due to there being no enforcement agency for this legislation. Despite the promotion of inclusive education, government documents focus on inclusive education as being about including children with disabilities in the education system, but not specifically the mainstream (Singal, 2005a).

In India, **National Council of Educational Research and Training (NCERT)** joined hands with UNICEF and launched **Project Integrated Education for Disabled Children (PIED)** in the year 1987, to strengthen the integration of learners with disabilities into regular schools. In 1997, IEDC was amalgamated with other major basic education projects like the DPEP (Chadha, 2002) and the Sarva Shiksha Abhiyan (SSA) (Department of Elementary Education, 2000). The Persons with Disability Act, 1995 has a provision of providing education to children with special needs in the most appropriate environment. The SSA launched by the Govt. of India, in 2001, underlines the prerogative of a child with disability to be included in the mainstream of education.

Ministry of Human Resource Development (MHRD) in its ***Sarva Shiksha Abhiyan (SSA)*** framework (2006) clearly states, "SSA will ensure that every child with special needs, irrespective of the kind, category and degree of disability, is provided education in an appropriate environment. SSA will adopt zero rejection policy so that no child is left out of the education system. It will also support a wide range of approaches, options and strategies for education of children with special needs." Inclusive Education for Disabled at Secondary Stage (IEDSS) was approved in India in September, 2008 to replace IEDC Scheme from 2009-10. The Scheme is 100% centrally funded.

The Rehabilitation Council of India (RCI) is mainly responsible for education and rehabilitation of CWSN. The Rehabilitation Council of India (RCI) was set up as a registered society in 1986. On September, 1992 the **RCI Act** was enacted by Parliament and it became a Statutory Body on 22 June 1993.The Act was amended by Parliament in 2000 to make it more broad based. The mandate given to RCI is to regulate and monitor services given to persons with disability, to standardise syllabi and to maintain a Central Rehabilitation Register of all qualified professionals and personnel working in the field of Rehabilitation and Special Education. The Act also prescribes punitive action against unqualified persons delivering services to persons with disability.

Article 24 of the Convention (UNCRPD, 2008) on education states that:

1. States Parties recognize the right of persons with disabilities to education. With a view to realizing this right without discrimination and on the basis of equal opportunity, States Parties shall ensure an inclusive education system at all levels and lifelong learning directed to:

a) The full development of human potential and sense of dignity and self-worth, and the strengthening of respect for human rights, fundamental freedoms and human diversity;

b) The development by persons with disabilities of their personality, talents and creativity, as well as their mental and physical abilities, to their fullest potential;

c) Enabling persons with disabilities to participate effectively in a free society.

2. In realizing this right, States Parties shall ensure that:
Persons with disabilities are not excluded from the general education system on the basis of disability, and that children with disabilities are not excluded from free and compulsory primary education, or from secondary education, on the basis of disability;

b) Persons with disabilities can access an inclusive, quality and free primary education and secondary education on an equal basis with others in the communities in which they live;

c) Reasonable accommodation of the individual's requirements is provided;

d) Persons with disabilities receive the support required, within the general education system, to facilitate their effective education;

e) Effective individualized support measures are provided in environments that maximize academic and social development, consistent with the goal of full inclusion.

3. States Parties shall enable persons with disabilities to learn life and social development skills to facilitate their full and equal participation in education and as members of the community. To this end, States Parties shall take appropriate measures, including:

a) Facilitating the learning of Braille, alternative script, augmentative and alternative modes, means and formats of communication and orientation and mobility skills, and facilitating peer support and mentoring;

b) Facilitating the learning of sign language and the promotion of the linguistic identity of the deaf community;
c) Ensuring that the education of persons, and in particular children, who are blind, deaf or deaf-blind, is delivered in the most appropriate languages and modes and means of communication for the individual, and in environments which maximize academic and social development.

National Policy for Persons with Disabilities (2006) states that: "Education is the most effective vehicle of social and economic empowerment. In keeping with the spirit of the Article 21A of the Constitution guaranteeing education as a fundamental right and Section 26 of the Persons with Disabilities Act, 1995, free and compulsory education has to be provided to all children with disabilities up to the minimum age of 18 years.According to the Census, 2001, fifty-one percent persons with disabilities are illiterate. This is a very large percentage. There is a need for mainstreaming of the persons with disabilities in the general education system through Inclusive education."

The proposed Rights of Persons with Disabilities Bill, 2014, introduced in the Rajya Sabha (Parliament) on February 7, 2013 by then Minister of Social Justice and Empowerment, repeals the Persons with Disabilities (Equal Opportunities Protection of Rights and Full Participation) Act, 1995. The Bill provides for the access to inclusive education, vocational training and self-employment of disabled persons.

Thus, the government of India promises inclusive education to be implemented in all educational institutions, at all levels. Evaluation of IEDSS has shown an increase in student enrolment in 11 states from 2010 to

2012. In 2010, 'India implemented the Right to Education Act (RTE) to legally support inclusive education' (Bhan and Rodricks, 2012, p. 367). In addition, a working draft of the PWD Act 2011 was prepared by the Centre for Disability Studies, University of Hyderabad. Although the amended law has not yet been passed by the Indian parliament, it shows the government's commitment regarding the implementation of policy initiatives for PWD emphasizing inclusive education.

However, the literature review yielded a dismal picture of the outcomes that the policy initiatives had aimed to achieve. For example, Mani (2003) argued that not even 5% of children with disabilities have been provided with educational services in inclusive classrooms, although the implementation of an integrated system of education began in 1975. Gopinathan (2003) contended that the percentage of students with disabilities attending regular schools is even lower: only 750,000 students with disabilities receive educational services in regular schools, and the total population of students with disabilities stands at 30–35 million nationwide (Mitchell and Desai, 2005; Singh, 2001). According to data provided by the Ministry of Human Resource Development (2007), the number of students with disabilities served under various inclusive education schemes/programmes is 5,800 through PIED; 203,146 through IEDC; 621,760 through DPEP; and 1.6 million through SSA. It is clear from these figures that the number of students with disabilities receiving services under inclusive education has been constantly growing. However, it can also be said that the efforts made by the government have only been able to touch the fringe of the problem, considering the number of students with disabilities in the country.

Conclusion

It is important to remember that Inclusive education is at a very early stage of conceptualization and implementation in India. It can be assumed that achieving the Education for All (EFA) targets and Millennium Development Goals will be impossible without improving access to and quality of education for children with disabilities. The absence of accountability mechanisms, which results in poor policy implementation, suggests that in order to ensure implementation of 1995's Persons with Disabilities Act, some kind of legal enforcement mechanism needs to be created by the government.

◆

Section 10

Surgical and Orthopedic Interventions in Child with Disability

Paediatric Surgical Services in Remote Areas

DR. RAVINDRA VORA, DR. SUDHAKAR JADHAV, DR. DEEPAK GOEL

COMMUNITY ORIENTED PAEDIATRIC SURGERY CHAPTER OF IAPS
Paediatric Surgery Centre & PG Institute
Sangli, Maharashtra

The scenario in India –

a) Ignorance & complacency about illness if relief with casual treatment.
b) Lack of Paediatric Surgical service in the area .
c) Transportation difficulties , Low income family, not affording costly & at times repeated operations & follow up.
e) No Health Care insurance or medi-claim cover for cong. anomalies.
f) Lack of awareness in parents about anomaly & plan of management.
g) No counseling centers or parents support groups at dist. places.
h) Information about newer modalities/ equipments to improve the corrections or quality of life and about prevention of cong. anomaly in next offspring does not reach parents

Thereby these patients are deprived of

a) timely & ideal treatment of primary & associated anomalies.
b) vigilance for known complications & sequelae and their treatment
c) alternative treatment or opportunity to avail of new technology & improved modalities of management.

Such deprivations lead to either progression of dysfunction or deformity & chances of complications with morbidity & degradation of life quality.

What are the challenges?

- Does the patient reach us?
  - Timely
  - Safe
  - Distance
  - Cost / Insurance
- Is there service available?
  - Paediatric Surgeons
  - Hospitals
- How to modify Health Care Policy ?

Health Insurance for congenital anomalies

Reluctance of companies to cover congenital anomalies

- Not easily available

  - Expensive
- Families suffer especially siblings
  - High cost
  - Prolonged treatment.

Health insurance should cover Foetus & Mother

Health Care Policy

- No Provision for Paediatric Surgery
- Lack of incentive to PG's to take up P.S.
- Over 60% Districts have NO Paed. Surgeon
- No Birth Defects Registry
  - Lack of Data for Health care Planning
  - Apathy amongst doctors & Health Dept.
- Poor campaigns for Prevention of Birth Defects
- No Promotion of Foetal Health Insurance

In Summary

- Paediatric & Neonatal Surgery is Safe at District Level
- Needs awareness for early referral
- Needs support from allied specialties
- Recognition of Paed.Surgery as essential
- Greater penetration of dedicated surgeons
- Support from Government and Society

Remedies... 1

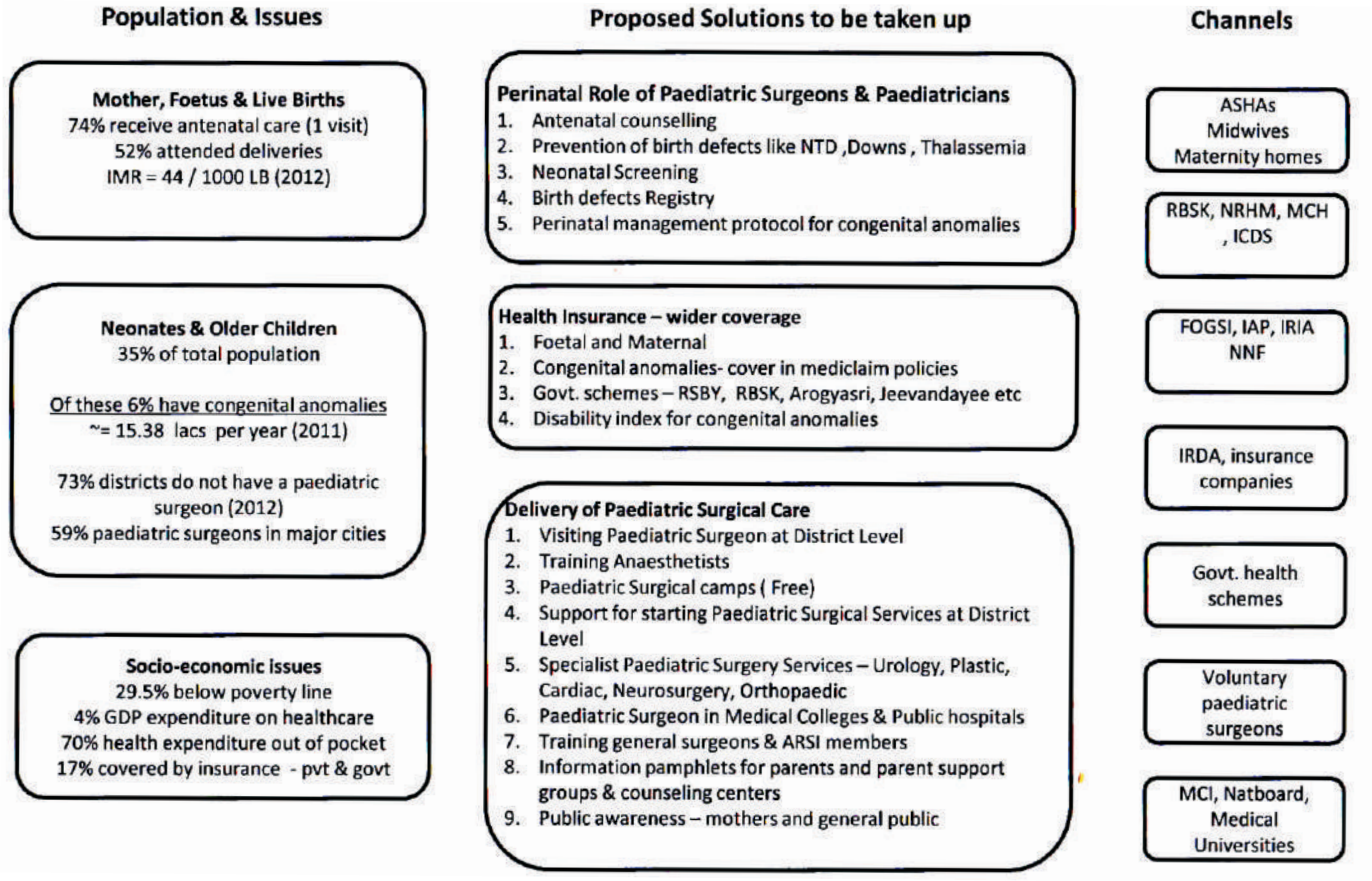
- Provide Paediatric Surgical Care at District Level
  - Visiting Paediatric Surgeons from Neighbouring Districts (RBSK/MCH/IAPS)
  - Training of Rural Surgeons / fellowships (IAPS)
  - Incentives (IAPS/NRHM)
  - Infrastructure in Remote Areas PPP (NRHM/RBSK)
  - Periodical Paediatric Surgical Camps (RBSK/IAPS)

Remedies... 2

- Post-graduate Training Programmes (MCI/NBE)
- Department of Paediatric Surgery in Medical Colleges (MCI/Universities) & Govt. Hospitals
- Birth Defects Registry (MoHFW)
- Counselling Centres – Prevention (PHC/NGOs)
- Parent Support Groups (IAPS/NGOs)

Paediatric Surgical Services Indian Association of Pediatric Surgeons & Role of Healthcare Providers

Ravindra Vora, Convenor, Community Oriented Pediatric Surgery Chapter of India,
Sudhakar Jadhav, Ex-President, Indian Association of Pediatric Surgeons
Deepak Goel, Hon. Secretary, Maharashtra Chapter of Indian Association of Pediatric Surgeons



Population & Issues

Mother, Foetus & Live Births
74% receive antenatal care (1 visit)
52% attended deliveries
IMR = 44 / 1000 LB (2012)

Neonates & Older Children
35% of total population

Of these 6% have congenital anomalies
~= 15.38 lacs per year (2011)

73% districts do not have a paediatric surgeon (2012)
59% paediatric surgeons in major cities

Socio-economic issues
29.5% below poverty line
4% GDP expenditure on healthcare
70% health expenditure out of pocket
17% covered by insurance - pvt & govt

Proposed Solutions to be taken up

Perinatal Role of Paediatric Surgeons & Paediatricians

1. Antenatal counselling
2. Prevention of birth defects like NTD ,Downs , Thalassemia
3. Neonatal Screening
4. Birth defects Registry
5. Perinatal management protocol for congenital anomalies

Health Insurance – wider coverage

1. Foetal and Maternal
2. Congenital anomalies- cover in mediclaim policies
3. Govt. schemes – RSBY, RBSK, Arogyasri, Jeevandayee etc
4. Disability index for congenital anomalies

Delivery of Paediatric Surgical Care

1. Visiting Paediatric Surgeon at District Level
2. Training Anaesthetists
3. Paediatric Surgical camps (Free)
4. Support for starting Paediatric Surgical Services at District Level
5. Specialist Paediatric Surgery Services – Urology, Plastic, Cardiac, Neurosurgery, Orthopaedic
6. Paediatric Surgeon in Medical Colleges & Public hospitals
7. Training general surgeons & ARSI members
8. Information pamphlets for parents and parent support groups & counseling centers
9. Public awareness – mothers and general public

Channels

ASHAs
Midwives
Maternity homes

RBSK, NRHM, MCH , ICDS

FOGSI, IAP, IRIA NNF

IRDA, insurance companies

Govt. health schemes

Voluntary paediatric surgeons

MCI, Natboard, Medical Universities

* * *

Role of Orthopaedic Interventions in a Child with Disability !!

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Any Orthopaedic or Neurological disorder in a child is sufficient to put any family in lifelong misery. I still remember those days, when I was doing my post graduation in Orthopaedics & we were taught that there is no solution for many Orthopaedic and neurological conditions and we could hardly do anything for a child with disability.

But in last 20 years with advances in Paediatric Orthopaedic specialty, lots of conditions has become treatable, which previously were thought to be non curable.

As we all know, right from history taking, through examination, to diagnosis everything differs in Paediatric branches. Cartilaginous nature of bone, growth potential in bones, recurrence of deformities due to growing bone, delicacy required in surgeons hand while handling soft cartilaginous bone, small structures including neurovascular bundles, smaller or mini incisions, learning new approaches to minimize trauma to normal tissues, minimal scar expectation from parents, and most important the long term, regular follow up at least till skeletal maturity these are the factors which make Paediatric Orthopaedics branch more demanding and challenging.

The incidence of cerebral palsy is rising very high as lots of low birth weight and premature babies are being saved due excellent NICU care at peripheral centers. It is very important to generate awareness amongst parents of spastic children that cerebral palsy is a totally different condition than poliomyelitis and they should not confuse these two conditions. I have seen many surgeons who operate these spastic children in surgical camps for poliomyelitis and which ultimately lead in to disasters.

Many of these spastic children go for camps advertised by spiritual channels on television, and they land-up with trouble. Cerebral palsy is a subject where we need to keep the child under regular follow up; we have to assess the power and spasticity in muscle groups at regular intervals. Before taking the surgical decision, surgeon has to think many times, whether surgery is really going to give benefit to the child or not. By doing the surgery one should not loose the existing power of the muscles. Basically surgeon has to balance the art of deformity correction and maintain the existing power of muscles. Tendon cutting surgeries performed in free surgical camps like in polio, lead in to disasters in cerebral palsy and hence they should be condemned strongly. With recent advances in surgery many non ambulatory children can live independent life; provided they are handled by expert surgeon.

There are many congenital anomalies which can be managed excellently with recent techniques. Club- foot is one of the commonest congenital anomalies seen in day to day life. Previously application of plaster or posteromedial release or bony procedures, these were the only options available to surgeons. Now with better understanding of the pathology of this entity, minimal invasive techniques like Ponsetti methods are available and hence better correction is achieved in majority of the cases without going for extensive release surgeries. It is very important to start the treatment as earliest as possible (day 1 or first 7 days of life), as the results are very good if treatment is started in first few weeks of life. Many neglected late presenting clubfeet and neurogenic foot can be cured now due to recent surgical techniques (Ref. 1 and 2) developed by our Institute.

The conditions like congenital fusion of forearm bones(congenital radioulnar synostosis) which was thought to be incurable can be treated now with surgical technique developed by our Institute (Ref. 3)

Other common congenital anomalies of upper and lower limbs (radial club hand, fibular hemimelias, polydactyly, syndactyly) in which either the bone is missing, or extra or deformed, are getting treated with excellent results, due to availability of newer external stabilization systems and improvement in micro-vascular techniques.

Congenital dislocation of hip lead to severe arthritis of joint and associated lurch while walk. Now, congenital dislocation of hip can be diagnosed in early stages due to advances in USG. The results are excellent, if it is diagnosed, and treated in early age. Many pelvic osteotomies are now available to redirect the acetabulum; they require a skillful approach and technical expertization on part of the surgeon.

Treatment for upper limb birth injuries and Erb's palsy should be started as earliest as possible; as results are good if treatment is initiated in early stages. Lots of newer techniques of muscle and tendon transfers are available, which give excellent functional hand in long term.

Simple looking problems like flat feet in children can be dangerous, as they might be part of symptom complex, or secondary to many congenital pathologies of foot bones or could be manifestation of neurological pathologies; hence immediate opinion should be sought from a paediatric Orthopaedic Surgeon rather than just neglecting it as an untreatable entity.

Scoliosis (congenital or developmental deformity of back-bone/spine) was previously thought to be untreatable and was neglected by the surgeons due to involved morbidity in surgery, and was accepted by parents as an untreatable entity. These children on follow up used to get decreased vital capacity with increasing severity of spinal curve. Due to availability of allografts (human donated bone) newer instrumentation techniques, and good ventilatory support, the surgery has become very safe with excellent correction of spinal curvature.

Pyogenic infection of bone (osteomyelitis), particularly in neonate is still, a common thing in day to day practice. It requires an emergency management within golden period. If managed urgently with skillful decisions and good new generation antibiotic coverage, many of these patients do well. Some of them results in to dislocation of joint (particularly hip joint) and require reduction either by closed or by open methods. Tuberculosis of bones and joints also require a skillful management to give a good functional joint.

Congenitally or developmentally short limbs and bones are getting lengthened with Ilizarov techniques. Special computerized techniques which guide the progress of limb lengthening and deformity corrections (Taylors frame) are available. Although they are expensive but are accurate and give excellent results.

For malignant tumors in childhood, like Osteogenic Sarcoma, or Ewings sarcoma, amputation of the limb was the only choice in past. With availability of neo-adjuvant chemotherapy (cancer-cell killing toxic drugs) and advances in radiotherapy now there is no need of amputation of the limb. After resection of the bone tumor, the limb reconstruction is done by putting a metal prosthesis (metal joint) in place of previous pathological bone. This, not only preserves the limb, but also gives a functional joint required for locomotion.

With availability of 3-D USG scans, many of the congenital pathologies like club foot, dislocation of hip, scoliosis are getting diagnosed prenatally. Treatment of these conditions in early neonatal period give excellent results on long term follow up.

In nutshell, most of the so called “untreatable orthopaedic and neurological conditions” leading to disability have become treatable now days. And I am sure the day is not far when word “incurable” will vanish from dictionary of disabled child if specialists from all different groups including Paediatricians, Neurologists, Therapists, and Paediatric Orthopaedic Surgeons come together and work for these children hand in hand.

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* * *

PREFACE

An estimated 5 to 10% of the pediatric population has a developmental disability. The current strategy to identify these children is through developmental surveillance, a continuous procedure in which the health professional observes the infant, takes a developmental history, and elicits any concerns that the caregiver might have. However, identification of delayed children is ineffective when based solely on routine surveillance. A necessary adjunct is developmental screening: the process of systematically identifying children with suspected delay who need further assessment.

Section 11 gives a web based screening guide which can be used effectively by paediatricians in busy office practice. It also includes Anthropometric parameters useful for assessment of nutritional status and early identification of malnutrition.

Section 12 includes special articles of authors from all over the country and gives some food for thought for health workers dealing with children.

Section 11
Developmental Screening

Totsguide “Track & Act” – Web based Developmental Screening Tool

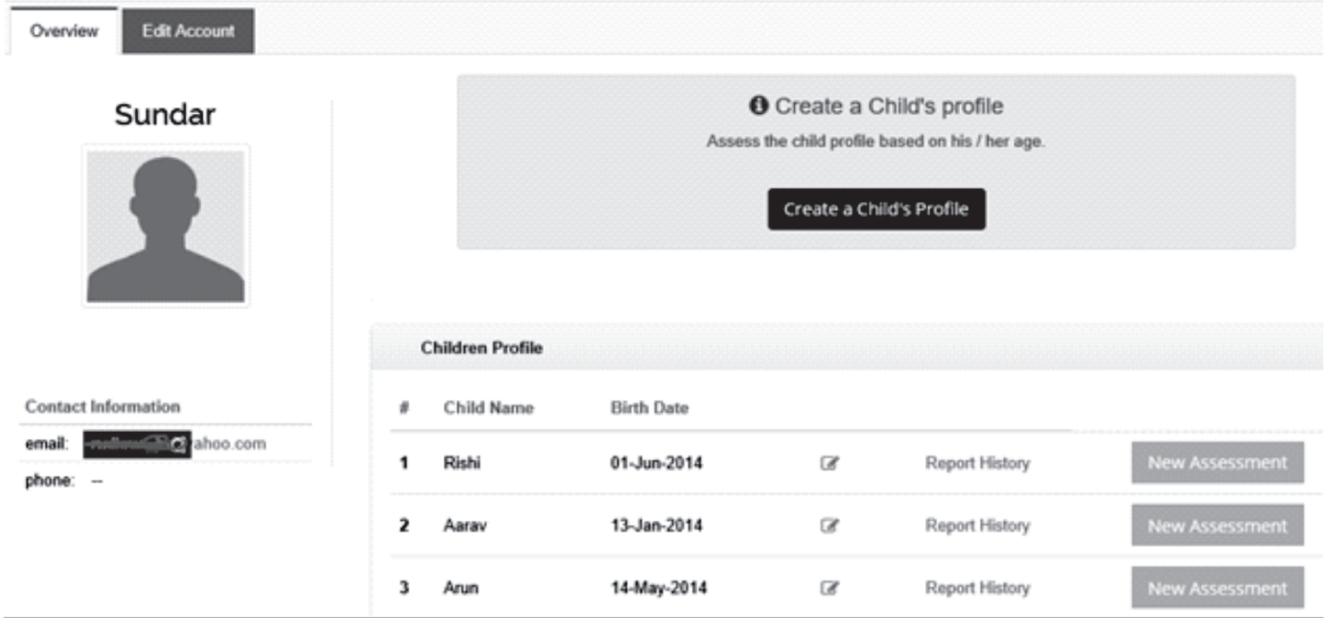
Dr. Nandini Mundkur, MD, R M. Sundar Kumar, PT,
Karthik Krishnamoorti, MIT

Early identification of developmental disorders is critical for the well being of children and their families. It is the responsibility of primary care professionals to improve developmental outcomes through early surveillance and appropriate referral of children with developmental delays. However, factors such as limited consultation time in busy office practice, inappropriate methods of screening, high threshold for referral and negligence of parent’s concern diminish the effectiveness of early screening. So, it is important to develop a tool that is systematic, easy and convenient for primary care practitioners to improve the effectiveness of Developmental screening and referral patterns.

It is with this objective in mind we have developed a **free web-based developmental screening tool “Tots guide – “Track and Act”** for a long-term monitoring of milestones in children from 4months to 5years.

Logon to **“totsguide.com” (parent based child development website) to access “Track & Act” Screening tool**. The tool is a cloud-based scalable solution which keeps track of child’s development. Using the platform, Professional and caregivers can instantly monitor their child overall development and keep record of milestones till 5 years of age.

Through Online Screening, professionals can create Child’s profile with demographic details. The details include automated calculation of corrected age in case of Pre-maturity. The corrected age is taken into account till 2 years of age.



Sundar

Create a Child's profile

Assess the child profile based on his / her age.

Contact Information

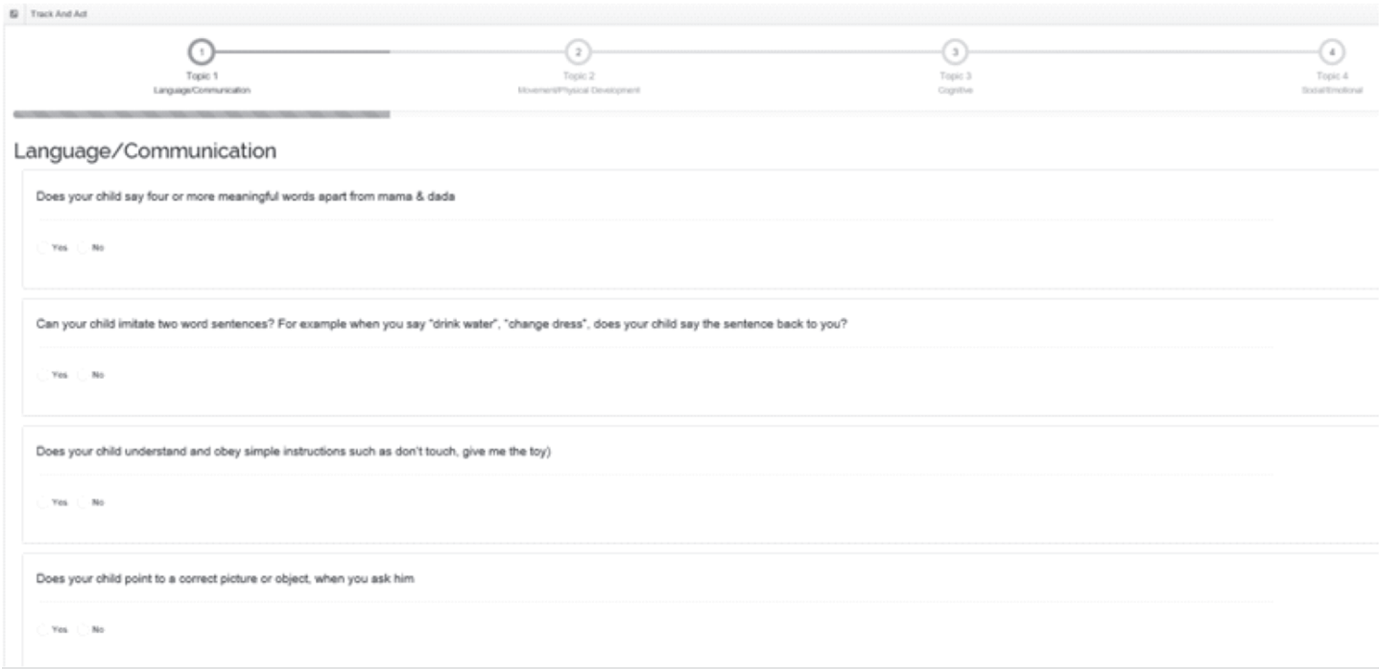
email: [redacted]ahoo.com

phone: --

Children Profile

#	Child Name	Birth Date			
1	Rishi	01-Jun-2014		Report History	New Assessment
2	Aarav	13-Jan-2014		Report History	New Assessment
3	Arun	14-May-2014		Report History	New Assessment

The screening contains structured “Yes or No” questions based on child’s age (corrected age in case of prematurity) and across four developmental domains such as Social-Emotional, Communication, Cognitive and Physical.



Language/Communication

Does your child say four or more meaningful words apart from mama & dada

○ Yes ○ No

Can your child imitate two word sentences? For example when you say "drink water", "change dress", does your child say the sentence back to you?

○ Yes ○ No

Does your child understand and obey simple instructions such as don't touch, give me the toy)

○ Yes ○ No

Does your child point to a correct picture or object, when you ask him

○ Yes ○ No

The authors recommend the users to test each item with child using Totsguide "Track & Act" screening kit to improve accuracy of responses.

19-Nov-2015

Child's Name : Arun

Date of Birth: 14-May-2014

Total score obtained by the child: 66

(The score reflects child's performance across developmental domains: Physical, Cognitive, Language and Socio-emotional)

Domain	Score
Language / Communication	60
Movement / Physical	100
Cognitive	100
Socio Emotional	20

Interpretation of the scores

* If the child's score (either total or domain score) is between 0-40, it is below average. Further monitoring and detailed developmental evaluation may be needed

* If the child's score (either total or domain score) is between 41-60. It is borderline. Provide opportunities for learning and monitor development through "Track & Act" next month.

* If the child's score (either total or domain score) is between 61-100, it is above average. Your child appears to have normal developmental schedule.

Recommendations

* Share this result with your Paediatrician / Primary care provider. (for all the scores)

* If you have definite concerns about child's development or child scored low in [illegible] for 3 consecutive months, meet Developmental Paediatrician for further evaluation. (only for scores between 0-10)

Trizaa Advertisement

On completion of the questionnaire, the program will generate printable report that will have overall and an individual score for each domain. The report will also provide interpretation of scores that will assist primary care practitioners in making appropriate Clinical Decision or to initiate further referral to Developmental clinic.

The screening tool is currently available in English language. However, considerable efforts are made to get Hindi, Tamil, Kannada and other regional versions. The iOS and android version of app will be soon deployed for the professionals to use.

For information about totsguide "Track & Act" contact Dr. Nandini Mundkur at nandinimundkur@gmail.com

Evolution of Anthropometry in Malnutrition

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Abstract

The present paper describes the significance of anthropometric measurements in detecting nutritional status of individuals, specially children. It highlights evolution of anthropometry, discusses importance of various measurements & their role in determining undernutrition & obesity. There is a need to have one measurement to detect obesity & undernutrition both. An ideal such measure is yet to be established.

Assessment of nutritional status of a child is necessary for early detection of malnutrition for long term recovery, prognosis, response to treatment, for assessing effectiveness of preventive programme and finally to detect & extrapolate on both ends of the spectrum of malnutrition i.e. undernutrition and obesity.

Methods to detect malnutrition :

There are various methods used to detect malnutrition viz. those based on clinical examination, those based on measurement of dietary intake (including breastfeeding, complementary feeding), biochemical investigations and anthropometry.

Most of the times, clinical assessment resorts to severe forms of malnutrition with obvious signs like visible wasting, oedema, skin changes, hair changes, growth retardation, apathy, mental changes, hepatomegaly etc. Clinical examination involves a lot of subjectivity. Therefore, its specificity and sensitivity is high only in severe forms of malnutrition and diagnosis depends on the astuteness of the clinician.

Detection of malnutrition by biochemical tests involves simple tests like serum albumin or complex ones like serum & urinary creatinine, urea & their ratios. These investigations are time consuming, invasive & yield results with not very high sensitivity or specificity. They cannot be tried in field settings.

Dietary recall by the parents or caregiver alongwith weighing the child before and after feeds has also been used alongwith clinical examination to get an idea about malnutrition. Obviously, its success depends on educational status and intelligence of the mother alongwith the time she devotes for the baby. Dietary component in the procedure is also to be combined with occurrence of diarrhea, malabsorption in a given case to determine the degree of malnutrition. All these tests have their own merits & demerits.

Anthropometry has always been an important and the best tool in the diagnosis, management & prognosis of malnutrition even in community settings. The science of body measurements in children & adults has evolved over the last century. The present paper deals with the development of anthropometry over years and those anthropometric measurements which should form the basis of diagnosis, prognosis & recovery in malnutrition.

Various anthropometric measurements help to assess malnutrition. They are as under :

A) **Age dependant anthropometric measurements -**

1) Weight (Wt)
2) Height (Ht)
3) Occipitofrontal circumference (Head circumference)
4) Chest circumference
5) Wt for age, Ht for age

B) **Age independent (or partially dependent) anthropometric measurements -**

1) Mid upper arm circumference (MUAC)
2) Body mass index (BMI)
3) Skin fold thickness – triceps, sub scapular
4) Indices – Wt. for height, Wt for length
5) Various ratios

Weight & Height :

Taking weight and height of a child or weight and length of an infant is relatively easy and inexpensive in a clinic setting, does not need complicated instruments and training of personnel is quick. When combined with age, they give good indication of the nutritional status of the child. Nearly two decades ago, growth monitoring was done mainly on the basis of wt. for age of the child. Weight gain or weight faultering or even weight loss for age gave an idea about the growth of the baby for that age. This was measured in terms of the percentage of the median of Harvard growth standards. Thus the measure would be in terms of median. So, grade-I malnutrition was weight of 71-80% of median, grade-II 61-70%, grade-III 51-60% & grade-IV was below 50% of the median. However, with the development of World Health Organization (WHO) growth charts and expressing weight in terms of percentiles, it was seen as a better index to reflect nutritional status in terms of SD or Z-score. Thus, expression of weight for age gave an idea whether the child was normal, moderate underweight (MUW) as <-2SD or severe underweight (SUW) as <-3SD. This classification of malnutrition gives an idea about the chronic nature of weight faultering, it is a composite index and is age dependent. It can broadly categorise children at risk. However, a better index is a measure of wt. for height of the child, using percentile WHO growth charts[1]. Thus, we have children classified as normal, moderate acute malnutrition (MAM) <-2SD and severe acute malnutrition (SAM) or wasting <-3SD. This is a measure of acute weight loss and identifies children at a high risk of dying (9 times increased risk as against wt. for age where in the risk is around 4 times more). Weight for ht. is an age independent index, is used to detect acuteness of the illness and often used now to categorise malnutrition (WHO).

A clinical analogy for difference between wt. for age & wt. for height measure would be the one of lipid profile and ECG with cardiac enzymes in an old person. Lipid profile may identify individuals at a chronic risk of coronary artery disease but ECG and cardiac enzymes are pointers towards acuteness of the coronary artery disease and myocardial infarction. Therefore, in clinical settings now, detection of undernutrition should be done by weight for height.

The third index used is height for age which indicates if a child is stunted for age. This is again an age dependent index like the first index and gives an idea about chronicity of nutritional deprivation. All these indices (underweight, wasting & stunting) are used in clinical practice to get an idea about nutritional status of the child, but wasting is the best index to be used to identify children who are at high risk of death and who need to be treated immediately.

Table 1 gives details about Wt. for age, Wt. for ht and Ht. for age :

1) Wt. for Age	**2) Wt. for height**	**3) Ht. for age**
a) Composite Index. Detects Acute & Chronic malnutrition. Underweight - Moderate underwt MUW, Severe underwt SUW.	a) One index. Detects Acute malnutrition. Wasting - Moderate acute Malnutrition (MAM), Severe acute malnutrition (SAM).	a) One index. Detects Stunting. Moderate stunting, Severe stunting, Chronic malnutrition.
b) It gives an indication of how the baby is growing.	b) It gives information about baby's wt. during past 3 weeks (As ht. does not change much in 3 wks).	b) It gives an indication of height of the baby for its age.
c) It is a Screening test (sensitive)	c) It is a Specific test	c) Stunting is indicative of chronic nutritional deprivation but good adaptation by body.
d) Similae- S. Lipids & Cholesterol Predict risk of Heart Attack	d) It is like ECG- Specific. Gives indication if the Patient has a heart attack	d) --

e) Age dependent - Age may not be stated precisely by uneducated parents or caregivers. Then it can give incorrect results.	e) Age independent - However, it can be affected by dehydration.	e) Age dependent
f) Easy to measure; Less training required. Accredited Social Health Activist (ASHA), Anganwadi Worker (AWW) can use it in the community.	f) More training required. Auxiliary nurse midwife (ANM), Supervisor, Doctors can use it.	f) Training required. Doctors & Supervisors can use it.

Various ratios –

a) QUAC stick (Quaker Arnold MAC) (Quaker arm circumference measuring stick). Mid arm circumference for height. A child taller for his arm circumference for height is malnourished (Normal – 75 to 85%).

b) Kanawati Index – Ratio of MUAC and head circumference. It varies between 0.32 – 0.33. A ratio of less than 0.25 indicates SAM.

c) Rao's ratio $\leq \frac{\text{Wt in gms.}}{\text{height in cm}^2} \text{ X } 100$

Normal is 0.0015.
Value between 0.0013-0.0015 is moderate malnutrition and below 0.0013 is SAM.

d) Rao and Singh's index $\leq \frac{\text{Wt in kg}}{\text{height}^2 \text{ in cm X } 100}$

0.14 normal.
0.12 – 0.14 malnutrition.

e) Dugdale's index $\leq \frac{\text{Wt in kg.}}{\text{height}^{1.6} \text{ in cm}}$

0.88 – 0.97 normal
Below 0.79 is malnutrition.

f) Jelliffe's ratio – Head circumference/ chest circumference

Ratio above 1 in a child more than 1 year is malnutrition.

g) Quetelet index $\leq \dfrac{\text{Wt in kg.}}{\text{height in cm}^2}$

h) Ponderal index $\leq \dfrac{\text{Wt in gms.}}{\text{Length in cm}^3}$

Index less than 2 means asymmetric intrauterine growth retardation(IUGR)
2 – 2.5 borderline malnutrition & more than 2.5 is appropriate for
for gestational age (symmetric IUGR)

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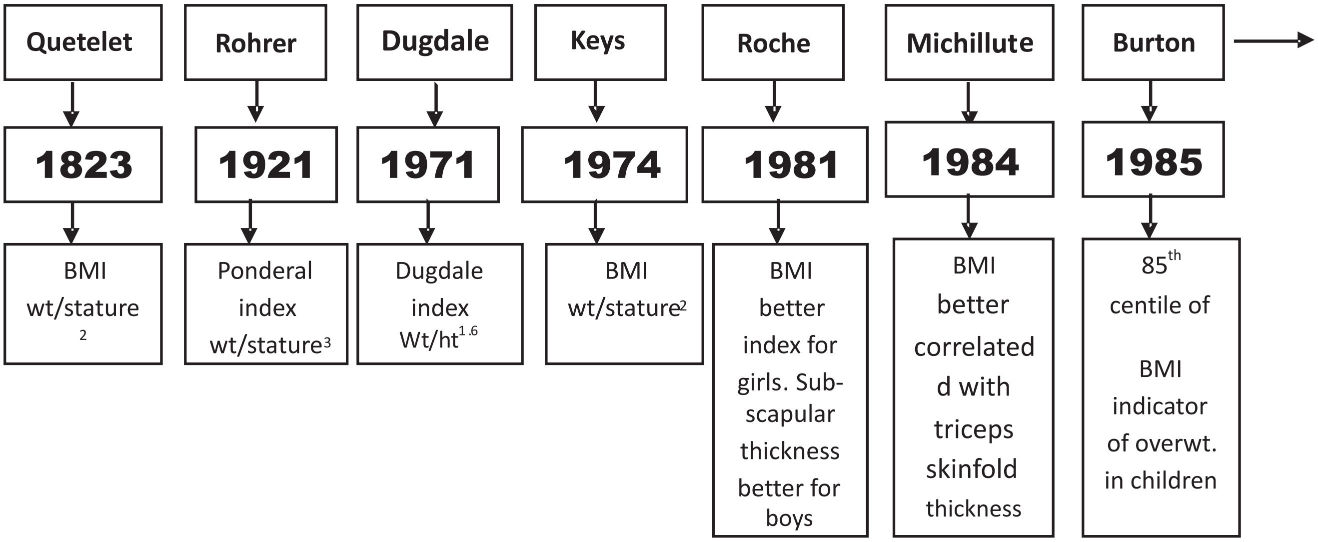
The other extreme of malnutrition i.e. obesity has been defined by BMI (body mass index – wt in kg/height in meter^2) in adults. The need to measure childhood obesity is increasing rapidly, considering the emerging epidemic of obesity & syndrome X (Hyperlipidemia, diabetes, hypertensioin, coronary artery disease), specially in low and middle income countries (LMICS). BMI between 18.5 – 24.9 is normal, 25-25.9 is overwt, above 30 is obesity, 15-18.5 is underwt, 13-14.9 is moderate underwt & below 13 is severe underwt.

Obesity in children -

Various growth charts using Z-scores are being used for children. Those with weight more than +2 Z-score or +2 SD on growth charts are considered to be obese. There has been varied opinion on the use of WHO growth charts for obesity. Use of these charts with cutoffs for under-5 years is likely to misclassify children as obese[2]. Children above 5 years are classified as obese with >1 SD BMI by some scientists. BMI cutoffs are still not considered as ideal for detecting obesity[3]. So, one is still in a dilemma as to which one measurement is to be used to measure wasting and obesity both i.e. the wt for ht or BMI charts.

Timeline of events in anthropometric measurement :

Table 2 gives the Salient landmarks in evolution of anthropometry[1,2,3,4,5] -



Quetelet	Rohrer	Dugdale	Keys	Roche	Michillute	Burton
1823	1921	1971	1974	1981	1984	1985
BMI wt/stature^2	Ponderal index wt/stature^3	Dugdale index Wt/ht$^{1.6}$	BMI wt/stature^2	BMI better index for girls. Sub-scapular thickness better for boys	BMI better correlated with triceps skinfold thickness	85th centile of BMI indicator of overwt. in children

→ ……. *Contd……*

Must	**WHO**	**IOTF**	**Cole**	**WHO**	**WHO**	**IAP**	**IAP**
1991	**1995**	**2000**	**2007**	**2010**	**2013**	**2013**	**2015**
85th centile of BMI - Overwt 95th centile of BMI obesity	Adults BMI = >25 Overwt BMI=>30 obesity. No measure for children	Percentile equivalents for BMI of 18.5, 25 & 30 published for children	Value of BMI 18.5 in children	BMI Z-scores in children 0-5 & 5-18 yrs & growth charts <-2SD & <-3SD	MUAC <11.5 cms or wt/ht <-3SD or bipedal oedema is severe acute mal-nutrition	Use WHO growth charts Z-score for SAM detection	IAP revised charts ht, wt, BMI for 5 to 18 yrs

1. Quetelet Index - This is a body mass index which is Wt/stature^2. It was first described by Adolphe Quetelet in 1832. It allowed comparison of weights between adults with varying heights. He used it to detect obesity.

2. Rohrer Index – In 1921, Rohrer introduced the Ponderal index which is Wt/stature^3. With 'stature cubed' an adjustment is made appropriately for height because of different dimensions of infants. (Body proportions of an infant - Upper segment : Lower segment 1.6:1). This is done so that weights of infants with different lengths could be directly compared. Ponderal index was used as a measure of asymmetric intrauterine growth retardation in a newborn.

   At this juncture, though it was agreed that Quetelet BMI was useful in adults and Ponderal index was useful in infants, what measure to be used for children and adolescents was not defined[3].

3. Dugdale – Dugdale in 1971 showed that Wt/ht$^{1.6}$ is a better index of malnutrition.

4. Keys – In 1974, Keys reported Quetelet's BMI to be the best proxy for body fat percentage in adults.

5. Roche : In 1981, Roche compared BMI to the Ponderal index & triceps skinfold thickness to total body fat in individuals from 6 to 49 years. They noted that wt/stature^2 was an indicator of total fat in girls while sub-scapular skinfold thickness was better for boys.

6. Michielutte – In 1984, Michielutte found that Quetelet's BMI was better correlated with triceps skinfold thickness than Rohrer's Ponderal index among 5 to 12 year old children in North Carolina. This can be better understood when one considers that the upper segment : lower segment ratio in 5 to 12 year old changes from 1:4 to 1:1 i.e. adult proportions.

7. Burton – In 1985, Burton proposed that 85th centile of BMI was an indicator of overwt. in adults.

8. Must – In 1991, Must published BMI percentiles for 6-74 years. Must proposed that 85th percentile indicates overwt and 95th centile to indicate obesity in children. They also stated that BMI below 5th centile provided a reference for underwt.

9. WHO – In 1995, a landmark measure was published by WHO It was that BMI ≤ to or above 25 in an adult is overwt and obesity is BMI ≤ to or above 30. The expert committee of WHO however did not define overwt and obesity in children very categorically. Thus we did not have a single measure.

10. International Obesity Task Force (IOTF) - In 2000, IOTF developed a method to predict BMI values appropriate for age in children equivalent to corresponding overwt and obesity in adults. They used data from multiple countries. Values were published for percentile equivalents to adult BMI 25, 30 & 18.5 for children between 2 to 18 years.

11. Cole - Cole in 2007, published values equivalent to BMI of 18.5 for thinness in children.

12. WHO – In 2010, WHO published another definition using BMI Z-scores in children 0-5 & 5 to 18 years. It was de Onis & Lobstein who published WHO definitions of overweight & obesity using BMI.

13. WHO – In 2013, WHO defined SAM as MUAC <11.5 cms or wt/ht <-3SD or Z-score or bipedal oedema which is nutritional in origin.

14. I.A.P. (Indian Academy of Pediatrics) also decided to use WHO growth charts & use Z-score (or SD) for SAM detection in 2013.

15. I.A.P. – In 2015, I.A.P. revised charts for ht, wt, BMI for 5 to 18 yrs of age.

The most accepted measures are the WHO norms of 2013 defining severe acute malnutrition as MUAC below 11.5 cms or wt for ht below -3SD on WHO growth charts or bipedal oedema & MAM as MUAC between 11.5 to 12.5 cms and wt of ht between -3SD to -2SD. GAM means global acute malnutrition which includes both SAM & MAM. This is specially used for babies between 6 to 59 months to get a general idea about nutrition in a community.

Indian academy of Pediatrics[4] & many other national & international bodies adopted WHO definition of SAM & MAM.

Many workers have since then continued to measure MUAC & wt for ht. to detect wasting.

All ratios like Rao, Rao & Singh, Dugdale, Quetelet & Ponderal using weight and height need a special mention. Denominator height has been tripled in infants, squared in adults and as yet opinions are divided on how to use it for children from 1 to 5 yrs & 5 to 11 yrs.

Do MUAC & Wt for ht detect the same set of children?

Laillou Arnand[5] analysed data from over 11000 children from Cambodia and found that with current MUAC of 11.5 cms as screening for SAM, over 90% children with a wt for ht. Z-score <-3 would have been missed. Reversely WHZ <-3SD missed 80% children with MUAC of less than 11.5 cms. Both measures thus identify different sets of children.

Fiorentino M, Sophonneary P, Laillou A[6] in a study on 14173 Cambodian children concluded that boys had higher MUAC cutoffs than girls except in 8-10.9 years' range. In children below 2 years MUAC cutoff was lower for stunted children compared to nonstunted.

Many studies have corroborated this finding, it has been observed by many workers that specificity and sensitivity of MUAC & Wt for ht is variable, and correlation is not absolute.

Can BMI be used to detect thinness?

Many scientists have tried to use cutoffs to define thinness, overwt and obesity. de Onis & Lobstein[7] (WHO) in 2010 stated that for children below 5 yrs, thinness is defined as those with BMI below -2SD, overwt as those with BMI above 2SD & obesity as those with BMI above 3 SD. Thus, in one BMI chart measurement, a child could be categorized as thin, overwt or obese. The same workers found that for children above 5 years overwt is BMI >1SD & obesity is BMI >2SD. At this juncture IO TF (Cole at 2000, 2007)[8,9] defined thinness as percentile equivalent of BMI <18.5, overwt as percentile equivalent of BMI >25 & obesity as >30.

Weight & height relationship -

Relationship between weight and height is complex & enigmatic. Ponderal index of Rohrer wt/ht^3 is appropriate for infants, but it is not clear as to what formula can one apply to toddlers, young children or adolescents. Many studies have concluded that after 5 years of age wt/height^2 can be used. It was compared with triceps skinfold and found useful. Some difference was reported by race, sex and age. It was also seen that height influences BMI in children, with taller children having larger BMI to some extent. In some series, stunting was also seen to be associated with overwt/obesity as measured by BMI. The results from different studies, in different ethnic populations have given differing results.

The issue therefore of whether to use BMI only for detection of undernutrion, overwt and obesity is partially resolved when we use WHO charts with SD or Z-score.

Role of MUAC in detection of malnutrition, specially SAM & MAM.

The main advantage of MUAC compared to other anthropometric measurements is that it is easy to perform, can be used by Anganwadi worker at the community level and requires just one non-stretchable tape costing few Rs. MUAC of less than 11.5 cms identified children at high risk of death in a series of longitudinal population studies that were undertaken in the 80's and early 90's[10]. They found MUAC to be a better diagnostic tool as it had the highest ROC (receiver operating characteristic). Aguayo VM[11] found that in 3 States of India, MUAC <115 mm appeared to be appropriate criterion to identify children with SAM who are at a greater risk of complications and death particularly 6-23 months' old children.

Unlike wt, MUAC is not affected by dehydration due to diarrhoea[12] MUAC specifically selects young children who have higher mortality. It also selects females more. MUAC has a relationship with fat mass and to some extent muscle mass. Survival is linked to fat stores during starvation and to muscle mass during infections[12,13] . Young children have comparatively low muscle mass that puts them at greater risk of death when they suffer from malnutrition. This may explain why wt for ht is not as effective as MUAC because it classifies in the same category children of different ages with same wt deficit not taking into account that young children with low muscle mass are at higher risk.

MUAC lacks sensitivity but is very specific. If more sensitivity is desired, higher MUAC cutoff may be used.

Wt. for ht. on the other hand detects a different set of people specially older children, boys and those with longer legs. Some workers feel that to increase sensitivity and specificity, one may combine MUAC and wt for ht while some workers feel it more appropriate to increase MUAC cutoff rather than combination of MUAC and wt for ht. WHO recommends that either MUAC or wt for ht Z-score are to be used to assess prevalence of SAM.

A study by Talapalliwar & Garg showed the sensitivity and specificity of MUAC <11.5 cm was 13.6% & 99.3% respectively. The best cutoff for screening of SAM was obtained at MUAC <12.8 cm where sensitivity and specificity was 50% & 90.8% respectively[14].

One study by Benitez Brito in adults showed that MUAC value ≤22.5 cms presented a sensitivity of 67.7% and specificity of 94.5% when compared to BMI <18.5[15]. Abdel Rahman[16] SM used MUAC Z-score in U.S. children 2 months to 18 years to generate data at all ages.

Relationship of MUAC, wt for ht, infections and survival :

There are a number of studies that have shown that MUAC below 11.5 cms & Wt for ht <-3SD or Z-score identify different sets of children at different risk of deaths. The specificity of MUAC is higher than wt for ht to predict subsequent death[5]. It has been shown that MUAC is strongly related to fat mass in children but is related poorly to fat free mass or overall wt. As against that, wt for ht cannot discriminate between fat & lean body mass and therefore, reflects fat mass & lean body mass. Fat mass is linked to immune function through leptin produced in adipocytes. Leptin favours Th1 immune response. So, low MUAC will predispose a child to be at high risk of infection that needs typical Th1 response eg. viral infection[5]. Lean body mass is linked to immune response through different roles of amino acids in immune system like acute phase response, also glutamate, sulphur containing amino acids which are antioxidants through glutathione, arginine and are important for NO production. So, low wt for ht predisposes a child to get infections requiring humoral immune response (eg malaria)[5].

This also means that in some seasons when viral infections are common, MUAC measurement may play a role while in seasons when malaria is common wt for ht could be more relevant. Thus, different infection pressure can result in differential survival.

Arm muscle area (AMA) & Arm Fat area -

Body mass exponential index (BMEI) : This is an age independent anthropometric nutritional assessment devised by Manuel Cidras[17]. It is thought to be better than BMI as exponential index is better than power i.e. squared.

Problems associated with BMI :

Use of BMI as an anthropometric index of nutritional assessment from 2 to 20 years has always been difficult. Though BMI is considered by and large as the standard screening for nutritional status specially obesity, it is associated with several problems.

1) Taller children tend to have higher BMI and therefore higher probability of being diagnosed as obese. It may be a mathematical artifact than a biological one.

2) BMI varies in children on a U shaped line with nadir at 6 years of age.

3) BMI depends on leg length and in certain races it may result in erroneous values.

4) It depends on fat & non-fat wt. So athletes with increased muscle mass will have more wt. and will be wrongly labelled as obese.

5) Allometric growth of body i.e. growth of a part, at a different rate from that of the body as a whole cannot be best expressed as power function i.e. height^2. If one organ grows exponentially and the other in a linear fashion, the allometric relation should be exponential and not power. (Therefore, BMEI is thought to be better by some workers).

6) There is lack of consensus on four normal limits of BMI for age 5th to 85th centile as per CDC, 18.5 – 25 BMI percentile lines as per IO TF & ±2SD as per WHO

   Manuel Cidras undertook statistical analysis and proved that BMEI wt/exp (2* height) is a better index and the curves drawn with this index coincide better with 5th & 85th centile. A BMEI of 2 with limits of 1.5 and 2.5 is useful for screening nutritional status during growth and the wt for ht chart is an ideal substitute for BMI for age chart.

Cidras has demonstrated that the wt, ht relationship from 2 to 20 years is better expressed by an exponential function than by a power function on which BMI is based. Wt/exp (2H) is more accurate than wt/ht^2, wt/ht^3 or wt/htp, in obtaining nutritional index[17].

Quetelet had considered growth coefficient to be ideally wt^2/ht^5 or $wt/ht^{2.5}$. The variation limit of 1.5 to 2.5 could be for females and males with 2 as the standard BMEI.

A BMEI of 2 with limits of 1.5 & 2.5 can then be used as nutritional index without requiring age chart.

7) Stunted children show inconsistent results. Some studies showed that stunting in early childhood was not related to BMI or adiposity. Other studies showed that stunted children were more likely to develop central adiposity[3].

8) Population differences related to ht & maturation can affect BMI.
There is a relationship between BMI & ht. Therefore, short children of China & tall Dutch population will need a scaling approach for adjustment of height & risk of adiposity. Here, wt for ht may be a better approach.

Stunted population may be a predictor of greater BMI. Asians may have a greater risk of chronic disease outcome at a lower BMI. Indian infants have a greater fat mass at any given wt compared to British infants[18]. Thus, though BMI continues to be a valuable measure for adiposity & though WHO defined thinness using BMI cutoffs in 2010, all these measurements are not yet ideal. The limitations of MUAC, wt for ht, BMI are discussed in the above paragraphs. In stunted children one may use waist circumference & skinfold thickness.

9) Percentage of wt. for height : This approach is partially age independent.

Rao & Singh[19,20] & Dugale[21] have studied it in details.

Rao & Singh showed that $wt/height^{2x100}$ was remarkably constant between 1-5 yrs and was same for males & females. The mean value was 0.15 (equalling to a BMI of 15?) and those with signs of malnutrition showed it to be 0.12 to 0.14. Dugdale described that $wt/ht^{1.6}$ provided the best index of anthropometric normality and was age independent. It remains to be studied if $wt/ht^{1.6}$ could replace BMI calculation of wt/ht^2. It may hold promise.

What should be the ideal BMI for Indians?

Answer to this question needs a lot more evidence to be generated. A low BMI with less body fat, thin lean, asthenic built may predispose to development of infections (Th2 cell dependent, rightly mycobacterium tuberculosis). Should we therefore change the lower limit of normal value of 18.5 BMI to around 20? Similarly, because Asian bodies have more fat than muscle mass[15,18] should we change the value of upper limit of normality from 24.9 to around 23? Further evidence will answer these questions. Should we use $wt/ht^{1.6}$ to replace the conventional BMI and generate one chart that will detect SAM, MAM, normal, overwt, obese children & adults of all ages? The answer will be obtained through large international studies. Indian Academy of Pediatrics[22] has already revised growth charts for Ht, Wt & BMI for 5 to 18 year old children. One may think of applying Dugdale Index[21] afresh and workout its specificity & sensitivity with MUAC in detection of SAM and its relation to BMI cutoffs in detecting obesity so as to arrive at a common measure for all.

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Section 12
Special Articles

Masters in Global Health – Some food for thought ...

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Health issues specially related to the changing world scenario with global warming, floods, famines, hurricanes, migration, trafficking of women & children etc. have assumed tremendous importance, coming to the centre stage of planning and execution. They need to be tackled well in order to reduce the burden.

There is a need to provide good managers who will have an in-depth understanding of these social issues coupled with health problems. Therefore, COMHAD, UNICEF, Universities, Health Services, Medical Education Directorate and such bodies should undertake to conceptualize, design, plan & execute a teaching program that will result in protection & promotion of population health both at national & transnational levels.

Such a program i.e. Masters in Global Health will involve understanding of major public health problems that have incurred world over during natural or manmade calamities. It would include diseases like leptospirosis, dengue, malaria, typhoid etc. during floods or severe malnutrition, during famines or human migration. It would involve infectious vaccine preventable diseases which are often seen as outbreaks all over the world, resulting in disabilities which can have lifelong impact. Besides these, first aid during wars is a critical aspect. The other matters like social, financial, geopolitical, psychological aspects that arise during these periods of crisis need to be dealt with critical attention and are required to be taught separately.

There is an acute need of such a teaching and training course. Anyone who is a graduate from any discipline should be entitled for undertaking this Masters Program which should be 'distance learning' for one year, followed by 1 year of internship placement in Medical Institutes and affected areas world over. The student will get good knowledge of diseases occurring during such periods, financial aspects, managerial issues & policy planning.

COMHAD should make efforts to undertake such a venture in joint collaboration with other organizations.

◆

Assessing the Health Needs of Unaccompanied Asylum Seeking Children - a Unique Experience

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I recently had the opportunity to be a part of a Team of doctors to assess health needs of unaccompanied asylum seeking children in Kent, United Kingdom. As this is quite different to my routine work I had to take some training which helped equip me with the following essential skills to undertake this task -

It provided me with some background information giving an insight into the difficulties faced by these children which forced them to flee their own country in the first place, and the difficulties during the journey they undertake to reach here for safety.

It taught about legal definitions of various terms used in the process of their application for asylum, and the processes involved.

It helped recognise essential features which may be quite different to usual health assessments and planning their future care based upon these differences.

The most poignant was training to recognise Safeguarding issues especially risk of being Trafficked, as well as recognising Mental health issues like post traumatic stress disorder.

Background information – as a group, unaccompanied asylum seeking children have been separated not only from their family, but their community and their country of origin. They have usually travelled for many days (some up to two years) from their country to reach the UK and during this journey may have experienced several adversities in the form of lack of food, being persecuted, experienced beatings, rape or torture or children may have witnessed these crimes against others within the group, including killings. They are under constant threat of loss of their own life and of those around them.

These children are mostly from Afghanistan, Eritrea, Syria, Sudan, Kuwait, Iran and some other countries, and despite differences in the political situation in each country the reason to flee remains the same, that is, a threat to their lives in their own country.

It is UK Government Policy that the majority of the UASC should enter Local Authority care as “children looked after” they should benefit from all Services, support and care and that any looked after child receives, and as a result, it is important they have a comprehensive assessment of their physical and mental health and based upon outcomes, appropriate social care and suitable placement is found to meet their needs.

The children are first received at Reception Centres and then transferred to Supported Living. Female children are directly fostered through the Looked After Children Teams.

Legal Definitions

Asylum Seeker - is a person who has applied for the Refugee status under the Terms of the 1951 UNCHR (United Nations Commission on Human Rights) Convention.

Unaccompanied Asylum Seeking Child -is a person, who, at the time of making their asylum application is under 18 years of age

Refugee – this term is widely used to describe displaced people all over the world, but legally in the UK a person is a refugee only when the Home Office has accepted their asylum claim.

Seeking Asylum – means asking for protection and permission to stay in the UK. The asylum seeker is seeking protection from persecution that has been suffered or that he or she is at risk of such things because of his or her nationality or ethnic origin, political opinion, religion or social group in their country of origin.

Initial Health Assessment

Initial health assessments are considered essential on the same principles as for any child who is taken into care where the state is the corporate parent and has responsibility for providing health and social security.

From previous experience it has been found that most of these children have health issues relating to -

General nutrition, Anaemia, dental decay, skin infections like scabies visual acuity which is not corrected,

Immunisations which are invariably incomplete possibility of physical and sexual abuse

Mental health issues

Health Assessments

As discussed before a complete physical and mental health assessment is carried out.

Doctors are encouraged to document any injuries, bruises, scars etc. on body maps. All systemic examination is to be completed and recorded.

Healthcare plans are made and sent, requesting the General Practitioner under whose care the child is registered, for actions required.

The child also has an allocated Social Worker who helps this process to be completed.

The main actions required are

Immunisation – Primary Immunisation is carried out based on the UK schedule for all children. They are referred for TB screening as well.

Blood test to rule out risk of blood born viruses.

Routine vision and hearing check.

Blood test to ascertain sickle cell status if the child appears clinically anaemic and the sickle cell status is unknown.

We also have to consider if the child has experienced significant trauma or loss and has symptoms of post-traumatic stress disorder or depression and a referral to Local Child and Adolescent Mental Health Team has to be made.

We have to be extra vigilant to recognise signs and symptoms of trafficked children and if this is the case we have to inform the relevant authorities.

* * *

Emotional and behavior disorders in childhood epilepsy – A case for Mental Health First Aid in a Pediatric office in India

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Rajesh (name changed to protect identity), an eleven year old bright and somewhat sensitive boy. He was diagnosed with epilepsy at the age of three years and has been on Phenytoin since. He does not like to make friends. He seems occupied with his own work. He has low self-esteem and gets bullied by his brother and friends. Rajesh's father is very unhappy about Rajesh's school performance and openly criticizes Rajesh while praising Rajesh's brother. Only Rajesh's mother supports him but feels helpless and wonders how to help her son.

Sameera (name changed to protect identity) is a seven year old delightful girl who got diagnosed with epilepsy at one year of age. She has difficulty in concentrating on task, is quite forgetful and is always on the move as if running on a motor. She is unable to finish her work in class. She does not sit still and moves constantly in the entire class. She loses her things often. And sometimes becomes extremely angry for seemingly trivial issues.

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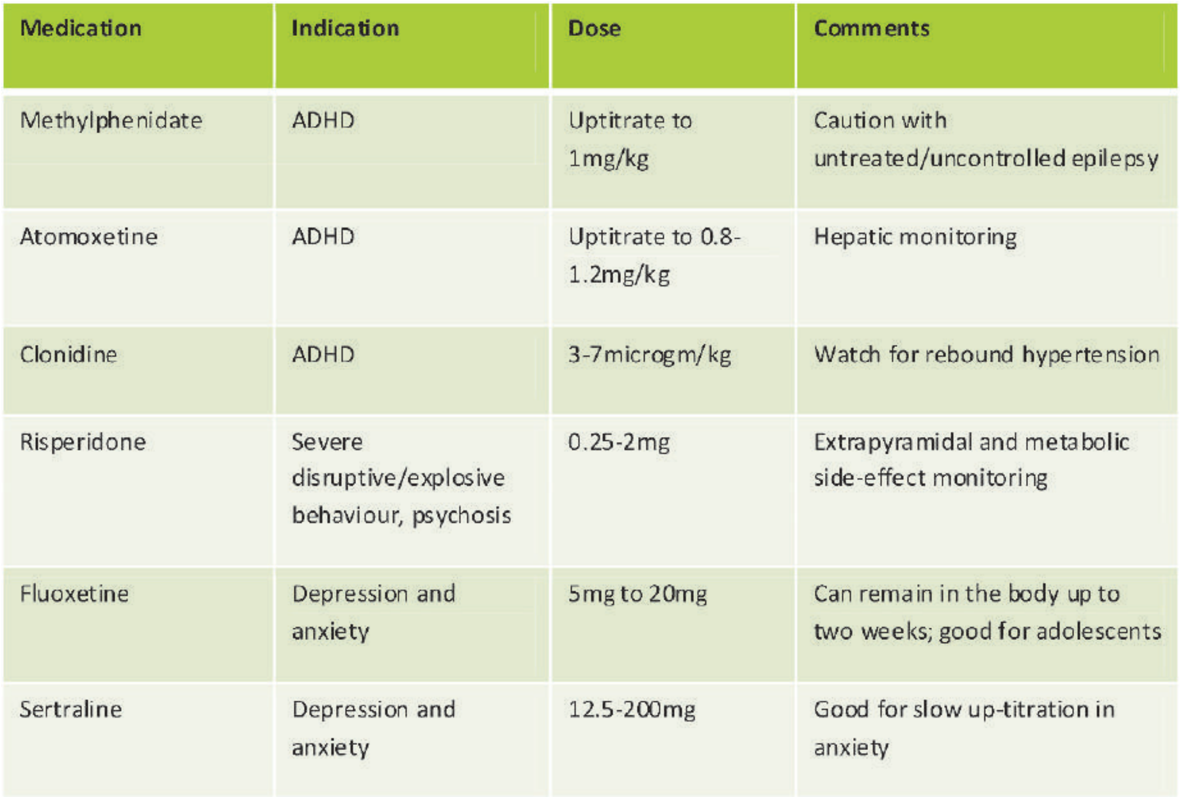
Epilepsy is a worldwide problem that affects between 2% and 3% of the population. 75% of the cases begin before adolescence. Children with epilepsy are 3 to 6 times more likely to develop psychopathology than the general population1. The Isle of Wight study2 found that 28% of children with epilepsy had psychiatric disorders. Table 1 indicates how mental health difficulties are commoner in population with pediatric epilepsy than the general pediatric population

Table 1. Prevalence of mental health difficulties in population with pediatric epilepsy as compared to that in the general population3,4.



Medication	Indication	Dose	Comments
Methylphenidate	ADHD	Uptitrate to 1mg/kg	Caution with untreated/uncontrolled epilepsy
Atomoxetine	ADHD	Uptitrate to 0.8-1.2mg/kg	Hepatic monitoring
Clonidine	ADHD	3-7microgm/kg	Watch for rebound hypertension
Risperidone	Severe disruptive/explosive behaviour, psychosis	0.25-2mg	Extrapyramidal and metabolic side-effect monitoring
Fluoxetine	Depression and anxiety	5mg to 20mg	Can remain in the body up to two weeks; good for adolescents
Sertraline	Depression and anxiety	12.5-200mg	Good for slow up-titration in anxiety

* Comorbidity of multiple mental health difficulties in one child is more of a rule than an exception.

Following are some real world observations regarding mental health concerns in children with epilepsy in India shared between experienced clinicians –

- Learning disorders more common in children with epilepsy, especially the ones who're on anti-epileptic medications longer.
- The children are tagged as 'dumb' by their peers or even teachers which leads to low self esteem, loss of confidence and social withdrawal.
- Family support is very important. The children whose parents aren't supportive feel more lonely and more depressed.
- Behavioral disorders- attention deficit and attention deficit hyperactivity disorders are more frequently associated in these children.
- Emotional issues in children with epilepsy are not addressed properly as the parents appear to not recognize it as a serious problem. Education and counseling in this direction is lacking

It is heartening to see that in recent years awareness is somewhat increasing regarding mental health difficulties faced by children with epilepsy. Gulati et al.5, in the Indian Journal of Pediatrics (2014) identified that epileptic patients have intellectual disability and behavioral co-morbidities to the tune of up to 25 and 75% respectively. Khanna et al.6 explored the social, psychological and financial burden on caregivers of chronically diseased children. They found that caregivers reported moderate depressive symptoms and mild to moderate anxiety symptoms. Rana et al.7 indicated in 2015 that the Quality of Life of unaffected siblings of children with chronic neurological disorders (including epilepsy) was significantly impaired. Health-workers need to consider including older siblings of neurologically affected children during family-counseling sessions, to provide information and suggest coping strategies. This intervention is likely to improve the functioning of the family unit as a whole which would be most beneficial for the child. At the 15th National Conference of the Neurology Chapter of Indian Academy of Pediatrics which concurred with the annual pediatric conference of Nagpur branch of Indian Academy of Pediatrics (NAPCON XI) at Nagpur, India (October 16-18, 2015), it was officially recognized by Dr. RG Patil in his chairperson's address that Pediatric Neurological disorders affect not only the physical and mental health of the children but also cause psychological injury to the parents (personal communication).

Need for Mental Health First aid in the Pediatric office – A Stich in Time Saves Nine!

When it comes to a busy Pediatric practice in India, it is not hard to acknowledge the limited opportunities for training in developmental and behavioral pediatrics. While grappling with a high case load of physical morbidity and risk of mortality, it is neither uncommon nor unnatural to under-recognize mental health concerns OR feel helpless, frustrated, angry or even judgmental when emotional and behavior concerns are brought up by the parents.

There is an inherent genuine recognition on the part of the clinicians that such families need help. At the same time, there is a dearth of specialist child and adolescent mental health clinicians who are found practicing mostly in metropolitan cities in India; access to them may be limited.

The issue of referral to mental health clinicians can also be a bit tricky. Stigma can be a major barrier in such referrals. When the parents might be struggling already with their child's epilepsy, the added emotional and behavior disorders is like a "double blow" for them and parents in such a crisis may find it hard to reach out for the appropriate support. Families look up to the Pediatrician as "THE doctor" for their child – this is a crucial and unparalleled therapeutic alliance. The Pediatrician is in a better position than perhaps anyone to help the family feel listened to, that their concerns are valid and that help is possible. There is a good argument for at least some "first aid" to occur in the pediatric office for such families (Table 2).

Table 2. Concept of Mental health first aid in a Pediatrician's office.

- Early detection of emotional and behavior disorders in children with (or without) medical/neurological disorders
- Initiation of treatments that do not require the exclusive expertise of specialist child and adolescent mental health clinicians
- Aims to empower parents and help them feel more in control of the situation
- Reduces the stigma that could have occurred and could have led to a lost opportunity to help the child
- If first aid not enough and if a referral needs to be made to a psychiatrist, parents are more likely to accept the need for the referral – "at least we tried!"

Providing mental health first aid to children with epilepsy and their families in a pediatric office

1.Early detection of emotional and behavior disorders: Psychiatric comorbidities are strongly associated with long-term Quality of Life in childhood-onset epilepsy, which suggests that comprehensive epilepsy care must include screening and treatment for these conditions, even if seizures remit8. "Nature and nurture" play important roles in development of emotional and behavior disorders in children with epilepsy (see Figure 1, Table 3 and Table 4). Screening for neurobehavioral comorbidities should be an integral part of management in children with "active" epilepsy9,10. Screening tools and rating scales (see Table 5) can be very useful in not only time-efficient early detection but also in ongoing monitoring of response to treatment. Familiarizing self with the psychiatric nosology from ICD 1011 and/or DSM 512 would be helpful. Referrals to Psychologists, Speech pathologists, Occupational therapists need to be considered to aid the assessment (e.g. IQ and academic testing, Language assessment, Sensory Profile). It is also helpful to conceptualize or formulate the child's and family's predicament on a multi-axial diagnostic statement (see Table 6) which aligns with the ILAE multi-axial classification of epilepsy.

2. Practical tips in treatment of mental health concerns as a part of first aid in pediatric office:

a. Medications and simple behavior strategies can be initiated in the pediatric office

b. Medications have a definite role in emotional and behavior disorders, but expect no miracles (Tables 7 and 8).

c. Simple behavior modification techniques can be easily learnt at workshops and/or using books (Tables 9 and 10). Workshops can be organized by trained local developmental Pediatricians, Psychologists or Psychiatrists. These behavior modification techniques and the books can be shared with the parents. Parents can continue to use these techniques and attend Pediatric office weekly or fortnightly, as practicable, for a quick review of how they are going and the challenges they've faced in using the techniques. Ongoing encouragement and corrective feedback to parents usually does not take more than 20-30min.

If in 4-6 such sessions parents are unable to modify their way of managing behaviors and their relationship with their child, or if there are more complexities in the form of multiple psychosocial social difficulties or diagnostic issues, they may be referred on to child and adolescent mental health specialists.

d. It is important to be aware of various risks in the childr – risk of harm to self or others, or risk of abuse, neglect, vulnerability, school refusal or expulsion from school. If in complex/high-risk scenarios the risks escalate before a referral to a child and adolescent mental health professional, appropriate liaison with agencies, like school, child welfare, NGOs, etc. needs to be considered, preferably after collaborative discussions with the parents. In case of dilemmas, at least an opinion can be sought anonymously from welfare agencies. Documentation helps for medico-legal purpose. Secondary consultation from Psychiatry colleagues can be sought via collegiate discussions.

e. Encouraging parents to join support groups is helpful. Parents in these groups support each other and learn from each other's struggles with daily tribulations.

Figure 1. Understanding "nature and nurture" when emotional and behavior disorders develop in pediatric epilepsy

NATURE	NURTURE
1. **Genetic predisposition to develop mental health disorder** (triggered by epilepsy)	1. **Direct adverse effects of epilepsy** on neuro-cognitive function especially if epilepsy is uncontrolled
2. **Underlying common dysfunction** – eg. Tuberous Sclerosis as a common diathesis for autism features and infantile spasms.	2. Psychosocial **difficulties in adapting** to epilepsy and developmental disorder
	3. Role of **Anti-Epileptic Drugs**

Table 3. Commonly noted association between Anti-epileptic drugs and emotional/behavior concerns in children

Common Anti-epileptic drug	Associated mental health concerns
phenobarbital, clobazam	ADHD, paradoxical activation/agitation
levetiracetam	Aggression, anger, apathy, depersonalization, depression, psychosis
topiramate	Difficulty in concentrating, dizziness, memory difficulties, sleep disturbances

Table 4. Psychosocial difficulties in adapting to epilepsy

Potential adverse experiences for the child with epilepsy:

- Stigma of having epilepsy
- Physical/cognitive side-effects of medications
- Learning difficulties
- Developmental delay
- Bullying at school
- Expressed emotions of either over involvement or even criticism/hostility from parents, family members or teachers based if they themselves are struggling to find the right way to support the child

Potential adverse experiences for the parents of the child with epilepsy[25]:

- Stigma
- Major adjustment to chronic illness/ disability/ developmental delay in their child
- Emotionally overwhelmed and fearful
- Post-traumatic stress symptoms and major depressive disorder, anxiety and decreased quality of life
- Increased stress levels, especially if multiple mental health comorbidities were present in the child (e.g. depression and learning disorder, in addition to epilepsy)
- Multiple children may suffer from epilepsy in the family

Table 5. Some useful screening tools and rating scales for emotional and behavior disorders in a pediatric office. *(Administering scales and questionnaires to multiple informants is recommended)*

SDQ – Strengths and Difficulties Questionnaire[13]	Brief, self-administered behavioural screening questionnaire (25 questions) for 4-17 year olds. It exists in several versions and languages including Hindi. Freely available online.
PSC – Pediatric symptom checklist[14]	35 items self-administered screening questionnaire for 3-18 year olds. Has a Hindi version. Freely available online.
DBC – Developmental Behavior Checklist[15]	Tool for assessment of behavioural and emotional problems of children, adolescents and adults with developmental and intellectual disabilities. Can be bought at a fairly reasonable price.
CGAS – Childhood Global Assessment (of functioning) Scale[16]	A quick rating scale that provides a good measure of baseline/improvement in/decline in child's functioning on the background of emotional and behavior difficulties. Freely available online.
DD-CGAS – Developmental Disorder CGAS[17]	CGAS modified for children with developmental disabilities like intellectual disability and autism spectrum disorder. Freely available online.
ADHD Rating scale 5[18]	Takes just 5 minutes to complete and comes in both a child (5-10) and adolescent (11-17) version, with developmentally appropriate symptom descriptions.
ISAA – Indian Scale for Assessment of Autism[19]	Can be used by clinicians experienced in management of autism
M-CHAT-R – Modified Checklist for Autism in Toddlers Revised[20]	20 questions screening for autism in children between 18 months and 30 months of age
SNAP IV – Swanson Nolan and Pelham questionnaire[21]	Teacher and parent rating scale for ADHD and other externalizing symptoms
K 10 – Kessler Psychological distress scale[22]	Self-rated, very brief, widely used scale in adolescents for internalizing symptoms and to screen for depression and anxiety

Table 6. Multi-axial classification in child and adolescent psychiatry24

Axis 1 – Major psychiatric disorder (eg. Depression, ADHD, ASD)
Axis 2 – Specific developmental delay (eg. Expressive Language Delay, Specific Learning Disorder)
Axis 3 – IQ level (Intellectual Disability, Borderline IQ, Average intelligence etc.)
Axis 4 – Medical/neurological disorder
Axis 5 – Family history/genetic predisposition, psychosocial difficulties (ref to table 4)
Axis 6 – CGAS score (ref to Table 5)

Table 7. General principles regarding medications for emotional and behavior disorders

- Ideally, psychotherapy/psychosocial interventions need to be tried before considering medications
- It is wise to avoid medications unless extremely severe behaviour, significant distress and/or high risk situations
- Start low, go slow

Table 10. Suggested books and useful resources that can be shared with parents

1. **Where There Is No Child Psychiatrist: A mental healthcare manual.** Authors: Valsamma Eapen, Philip Graham And Shoba Srinath. Publisher: Royal College of Psychiatrists, UK. October 2012.

2. Freely available Online textbook - Rey JM (editor). **IACAPAP e-Textbook of Child and Adolescent Mental Health.** Geneva. International Association for Child and Adolescent Psychiatry and Allied Professions 2015.

3. Inexpensive and useful books on home based training for children with developmental disabilities by the **National Institute for the Empowerment of Persons with Intellectual Disabilities** (formerly, National Institute for the Mentally Handicapped) http://www.nimhindia.gov.in/pub_list_Nov_t2016.pdf

4. **The Whole Brain Child: 12 Revolutionary strategies…** Authors: Daniel Siegel and Tina Payne Bryson. Publisher: Delacorte Press. 2011.

5. **Your Defiant Child: Eight steps to better behavior.** Authors: Russell Barkley and Christine Benton. Publisher: Guilford Press. 2013.

6. **Making a Difference: Behavioral Intervention for Autism.** Authors: Catherine Maurice, Richard Foxx, Gina Green. Publisher: PRO-ED, Incorporated (May 1, 2002)

7. **Cognitive Behavioral Therapy for the Busy Child Psychiatrist and Other Mental Health Professionals: Rubrics and Rudiments**. Authors: Robert D. Friedberg, Angela A. Gorman, Laura Hollar Wilt, Adam Biuckians, Michael Murray. Publisher: Routledge (26 January 2012).

To conclude:

Epilepsy in a child is a life changing adversity for everyone in the family. So is a mental disorder. The combination obviously is worse. So in such life-changing scenarios, it only makes sense to make long-lasting changes to approach to life to cope with the stress.

Mental Health First Aid in Pediatric office, especially in the context of pediatric epilepsy (and other medical disorders) would be a sensible and patient-centered approach. It would help if clinicians develop their own First Aid Kits based on their resources to support children and families with mental health concerns.

Acknowledgments:

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Neuro-imaging in Neurological Disability

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Developmental disability is a severe, long term disability that can affect cognitive ability, physical functioning, or both. These disabilities appear before age 22 and are likely to be life-long. Neuroimaging plays an important role in the evaluation of developmental disabilities, either in making a specific diagnosis in infancy and childhood and also in evaluating response to treatment, assessing prognosis and predicting outcome later in life. Cerebral palsy remains the most important cause of developmental disability. In this lecture, we will examine the causes of developmental disability and the role of imaging in its assessment, particularly with relation to MRI. MRI assessment of cerebral palsy will be exhaustively dealt with, mainly focussing on the appearances of hypoxic ischemic encephalopathy. MRI Illustrations of other causes of cerebral palsy such as metabolic diseases and congenital malformations will also be put forth. Finally we will study newer MR imaging techniques such as diffusion tensor imaging in the assessment of both cerebral palsy and in other disabilities such as autism.

* * *

Anxiety in Childrem

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Childhood is supposedly the most enjoyable and stress-free period of life. Traditionally, this period of life is considered to be full of fun, happiness, energy and lot of play and what not! The adult mind always remembers childhood fondly and fails to understand that even childhood can be a stressful period of life. Yes, it is true! The adult mind fails to remember it's own childhood anxieties.

Many children suffer from stress, anxiety and fear due to variety of reasons .The reasons could be varied, ranging from common causes like physical, mental or sexual abuse or less known causes like stress due to different reasons. These include anxiety in coping with academics, facing certain social situations or maybe the fear of some person, object or situation.

Childhood anxiety disorders and phobic anxiety disorders of childhood are well-recognized clinical entities which are not diagnosed properly because of lack of awareness and lack of acceptance.
Growing up period from early childhood to adolescence is filled with challenges. These varied challenges include coping up with family environment, teachers and school environment, peer group, academics etc. Maladjustments in any of these can lead to anxiety in a child. In addition, there are certain psychological conditions and states in which child is genetically prone to getting anxious. In this the situation may not be challenging but still because of the typical mindset of the child, they may feel anxious.

Various common conditions which can lead to anxiety and insecurity in children are:

- Disturbed family unit and environment
- Rigid disciplinary methods adopted by the parents
- Difficulties in adjustments with school environment and academics
- Peer pressure and school bullying
- Frequent exposure to fear generating stimulus
- Exaggerated and repeated stories, threatening about ghosts ,dark areas or animals etc.

Certain categories which are medically categorized as 'Emotional Disorders with Specific Onset' in children include—

- Separation Anxiety Disorder
- Phobic Anxiety Disorder
- Social Anxiety Disorder
- Sibling Rivalry Disorder

It is important to realize that the presentation of Anxiety may not be very classic in children or most of the time the child may not be able to talk about it like an adult. The symptoms of Anxiety may be varied like---

i. Disturbed sleep,
ii. Stomachache,
iii. Headache,
iv. Nausea,
v. Crying episodes,
vi. Tantrums,
vii. Withdrawal symptoms, etc.

It is very important to analyze these symptoms handle these anxieties in childhood with extreme care. If not treated properly its impact may affect the overall personality development of the child. It can affect the mental ,physical ,social and emotional development of the child. Not only this ,it affects the confidence level ,adjustment level and relationships as an adult. It can also lead to addictions in adolescents and adults

Handling anxieties in childhood needs

✓ Detail assessment
✓ Child Counseling and Guidance
✓ Play Therapy
✓ Family Therapy
✓ Behavior Modifications
✓ Medical T/T (rarely)

* * *

Social Media Abuse...

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In today's digital era, social media has been the important part of one's life from shopping to electronic mails, education and business tool. Social media plays a vital role in transforming people's life style. Social media includes social networking sites and blogs where people can easily connect with each other. The intensification of the internet age has enabled us to live a life at a faster hop. The younger section of society like children, pre-teens and teens accounts for a very large portion of the internet populace. The same group also accounts for the most rapid increase in internet use. And when this group stays online, the most common thing they do is join social networking like Twitter and Facebook have become as key tools for a day to day routine for everybody.

Social media has been mainly defined to refer to "the relatively inexpensive and widely accessible electronic tools that facilitate anyone to publish and access information, collaborate on a common effort, or build relationship".

What's most intriguing about this revolution is that children and teens are leading the way to ongoing popularity or maybe dependence on the internet and social networking carries not only positive but also negative effects.

<u>Uses we can consider as:</u>

- Social networking services can provide an accessible and powerful toolkit for highlighting and acting on issues and causes that affect and interest young people.
- Social networking services can be used for organizing activities, events, or groups to showcase issues and opinions and make a wider audience aware of them.
- Social networking services rely on active participation: users take part in activities and discussions on a site, and upload, modify or create content.
- Social media is responsible for revolutionizing traditional communication. However, research has shown that social networking sites can be very addictive.
- Interactive involvement even reaches as far putting children and teens under the spotlight for discussing and participating in online and social networking forums for issues that concern them.
- It helps in improving the world awareness.
- Social media is responsible for revolutionizing traditional communication. However, research has shown that social networking sites can be very addictive.

Social Networking Negative Effects may be considered as:

- The addictive nature of social media leads to eating disorders, obesity, heart problems, sleep disorders, and other pertinent health issues.
- We all know that social networking is a product of technology and technology brings new kinds of crime.
- While many people use it for wholesome, ethical, and healthy reasons, there are also many who utilize it to abuse and exploit others, particularly children and teens.
- The use of fake identities is one advantage these people have in order to be more confident in exploiting and abusing children.
- The convenience brought by the web has led criminals to understand that carrying out their trade is much easier and less risky online.
- Young people who use social networking services to showcase content – music, film, photography or writing – need to know what permissions they are giving the host service, so that they can make informed decisions about how and what they place on the site.
- Sometimes social networking will be responsible to behavioural tendencies and consequences.
- Due to this teens can subvert higher-order reasoning processes, including the kind of focus, concentration, and persistence necessary for critical thinking and intellectual development.
- There is the tendency to conform to what's popular without considering whether it's right or wrong - as often seen in cases of cyber bullying. It's much easier for young people to verbally abuse each other online than it is face to face.
- Prolonged Internet use exposes students to interactive, repetitive, and addictive stimuli that produce permanent changes in brain structure and function. The more one uses the Internet and social media, the better the brain can skim and scan.

A perfect exemplary Marathi movie 'TC GN' (take care... good night) is very relevant to current times where parents unlike their children are not willing to make the shift to the digital era, are unaware of cyber-crime taking place. When a cyber-criminal poses a big threat to the financial and social stability of a family, the family decides to fight back to regain its stability and pride.

However, in totality along with the benefits, cautions that students who use social networking tools might pay significant hidden cognitive costs. Social Networking is the one area of the Internet that serves as a platform for so many people – most of whom are blissfully unaware of the need for online security – cybercriminals who are out to make a fast buck from the unwary users. The threats out there can range from just the basic spam advertisement that we all find in our inboxes, to the more sophisticated scams designed to steal your Social Network account credentials, or ultimately, to infect your computer with a Backdoor. This can result in the loss of your private data and your money, not to mention endangering the people around you also. It is important to understand that by falling victim to these criminals, you are not only endangering yourself, but also the people around you, notably your friends on these Social Networks.

Hence to keep ourself safe, we need not only to follow some basic rules ourself, but also raise the awareness of our new generation too in the acceptable ways. Trying to force a child to stop using social networking sites will probably not work too well, but parents lovingly involved in their child's life will have a much better time keeping watch over their online activity and possible to maintain control. Through this active monitoring, one can at least limit the negative effects.

AUTISM – MANAGING THE PUZZLE RAINBOW

Dr. Mithun J Kaslekar, Dr. Priyanka Shaw

Autism spectrum disorder (ASD) is a group of neuro-developmental disabilities which affects communication, restricted or repetitive behavioural stereotypes as well as impaired social interaction. ASD is correlated with dental diseasesbecause of missed appointments which may lead to a total avoidance of dental careresulting in serious consequences in future ordeal. Patients with ASD respond abnormally to any kind of sensory stimuli, which may be over-reaction to sound as well as under-reaction to painchildren exhibit more behaviour management problems compared to normally developing children.The lapse on doctor's part to manage these children with ASD acts as a barrier to provide health care services to these patients.

The severity of unusual behaviour is thedecisive factorsfor determining the treatment plan i.e. whether child should be restrained or pharmacologically treated. In most cases, children with autismprefer soft and sweetened food and pouch it in the mouth instead of swallowing it, whichenhances their susceptibility to dental caries.They are more susceptible to developing harmful oral habitse.g. bruxism, tongue thrusting, picking at the gingiva,which needs to be diagnosed and treated as par the requirement. Numerous techniques have been used for the management of ASD kids which shall be enumerated and elaborated in this session.

* * *

Souvenir Advertisements


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WORKING HOURS

WEEKDAYS : 07.00 AM - 08.00 PM
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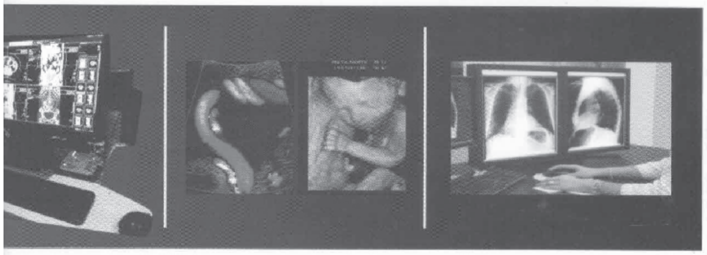

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International Conference of COMHAD - 2008 at Puducherry, INDIA

International Conference of COMHAD - 2011 at Goa, INDIA

National Conference of COMHAD - 2012 at Kolhapur, INDIA

International Conference of COMHAD - 2013 at Dhaka, BANGLADESH

International Conference of COMHAD - 2013 at Dhaka, BANGLADESH

International Conference of COMHAD - 2015 at Nagpur, INDIA

International Conference of COMHAD - 2015 at Nagpur, INDIA

Intl conference of COMHAD, CHPA IAP-2015 to begin on Dec 5

- A workshop on 'Surgical insight to managing the spasticity' today

Staff Reporter

Members of the organising committee at the press conference.

THE Commonwealth Association for Health and Disability (COMHAD) and Commonwealth Health Professions Alliance (CHPA) in association with Academy of Pediatrics, Nagpur, UNICEF, DMER and MUHS are organising an international conference in city on December 5 and 6, at Hotel Centre Point.

The inauguration will be held on December 6 at 12 noon at Millennium Hall, Hotel Centre Point at the hands of Nitin Gadkari, Union Minister of Road Transport, Highways and Shipping. Chandrashekhar Bawankule, Minister for Energy, Rajkumar Badole, Minister of Social Justice; Dr Milind Mane, MLA North Nagpur, will be the guest of honour.

On December 4, a pre-conference workshop on 'Surgical insight in managing the spasticity' will be held from 2 pm to 5 pm. The cases of cerebral palsy with surgical procedures will be discussed at Children Orthopaedic Care Institute, Ajni Square. Dr Viraj Shingade with Dr Urmila Dahake and Dr Sunil Kapil will conduct the workshop.

The main conference will commence on December 5. Two workshops will be held during the main conference. Also, a special symposium on 'Challenges in Adolescents with Disability' will be held. Key faculties will be Prof Mohd Sirajul Islam (Bangladesh), Prof Rajaram Papaiah (USA), Prof Sam Lingam (United Kingdom). Dr Govind Krishna and Dr Dattatray Gan Memorial Scientific Session will be organised on December [illegible]

The conference will be guided by the doyens in this field. Dr Uday Bodhankar, President, COMHAD; Organising Chairman Dr Yashwant Patil, Organising Secretary Dr Sachin Bagde, IAP Central Executive Board members Dr Vasant Khalatkar, Dr Jayant Upadhye, IAP Nagpur President Dr R G Patil, Secretary Dr Girish Charde, Scientific Committee chairpersons Dr Shailesh Pangaonkar and Dr Urmila Dahake, Workshop Committee chairpersons Dr Shubhada Khirwadkar and Dr Jaya Shivalkar, President elect Dr C M Bokade, Dr Sanjay Manathe, Dr Anil Raut, Dr Prakash Ukey, Dr Madan Warhade, Dr Kuldeep Sukhdeve, Dr Praveen Pagey, Dr Anjali Edbore, Dr Nilofer Mujawar, Dr Avinash Gawande, Dr Kush Jhunjhunwala, Dr Mohib Haque, [illegible] Jaiswal, Dr M S Hadi, Dr [illegible] Dharmadhikari, Dr Milind Mandlik, Dr Sandeep Mogre, Dr Hrishikesh Belsare, Dr Vinit Wankhede, Dr Amarjeet Wagh, Dr Rajiv Mohta, Dr Smita Desai, Dr Swati Waghmare are working hard for success of the conference.

Chief Minister Devendra Fadnavis is the chief patron of the conference. Prof Mrudula Phadke is Chairperson of CHPA and the patron of conference. Dr Uday Bodhankar is the International President of COMHAD. Dr Yashwant Patil is the Organising Chairperson. Dr Sachin Bagde is the Organising Secretary, Dr R G Patil is President of IAP Nagpur. Dr Vasant Khalatkar is National EB member of IAP. Dr Girish Charde is the Secretary of IAP Nagpur. Dr Prakash Sanghavi is the Convener, India.

COMHAD Activities 2016-18

COMHAD Activities 2016-18

शहर विशेष

मकरंद अनासपुरे : अंध व अपंगांच्या साहित्य व कला संमेलनाला सुरुवात

साहित्य व कला कुठल्याही सीमेत बंदिस्त नसते

COMHAD UK's physiotherapy workshop on spine and advanced technology

■ Staff Reporter

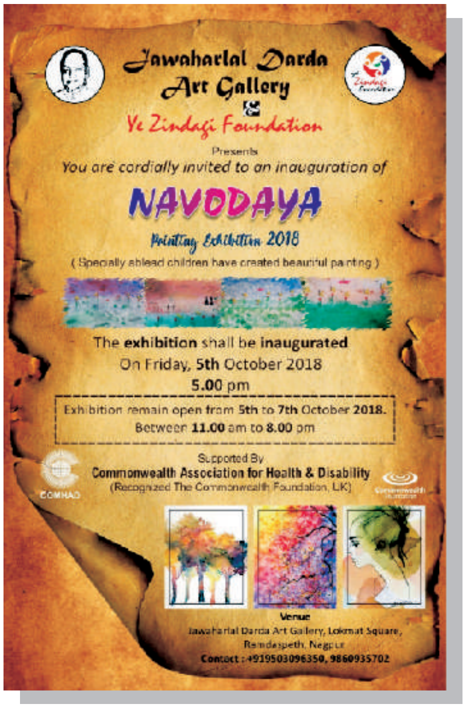
Commonwealth Association For Healthand Disability (COMHAD) UK successfully organised a physiotherapy workshop on spine in city. Dr Viral Kamdar, President of Pandit Deendayal Upadhyay Institute of Medical Sciences and Human Resources (PDUIMSR and HR) was the chief guest inaugurated the workshop. Dr Omanjali Damke Director of Physiotherapy Government Medical College (GMC) was the guest of honour.

Dr Rahul Choudhari faculty from UK also graced the occasion. Advisor of COMHAD Dr Yashwant Patil and Dr Uday Bodhankar International President COMHAD also graced the occasion.

Various issues related to spine and advanced technology to early diagnosis and management were discussed and demonstrated by expert faculty Dr Rahul Choudhari.

Dr Nakul Jaiswal and Dr Roshan Bodkhe worked hard for the success of this unique workshop being organised for the first time in central India for the benefit of physiotherapists and suffering community with various health problems related to spine and posture.

Inauguration of COMHAD UK Advanced Physiotherapy workshop on Spine in city.



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Presents

You are cordially invited to an inauguration of

NAVODAYA

Painting Exhibition 2018

(Specially ablead children have created beautiful painting)

The exhibition shall be inaugurated
On Friday, 5th October 2018
5.00 pm

Exhibition remain open from 5th to 7th October 2018.
Between 11.00 am to 8.00 pm

Supported By
Commonwealth Association for Health & Disability
(Recognized The Commonwealth Foundation, UK)

Venue
Jawaharlal Darda Art Gallery, Lokmat Square,
Ramdaspeth, Nagpur
Contact : +919503096350, 9860935702

COMHAD Activities 2016-18

MEMOIRS

The Prime Minister Smt. Indira Gandhi, with the members of delegation to the 7th World Congress of the International Association for the Scientific Study of Mental Deficiency in New Delhi on 2-11-1983

With Dr. Chandrashekhar Shetty at commonwealth foundation

Visit of Late Dr. Gwylim Hosking to Hyderabad, India

DECLARATION

INTERNATIONAL CONFERENCE OF COMHAD 2018 - BENGALURU, INDIA

International commitment to building more inclusive societies has resulted in improvements in the situation of children with disabilities and their families, but too many of them continue to face barriers to their participation in the civic, social and cultural affairs of their communities.

Realizing the promise of equity through inclusion COMHAD MEMBERS PLEDGE FOR ACTION to:

① Ratify & implement the 'Convention on the Rights of Persons with Disabilities' & the 'Convention on the Rights of the Child'.

② Fight discrimination and enhance the awareness of disability among the general public, decision makers, and those who provide essential services for children and adolescents in such fields as health, education and protection.

③ Dismantle barriers to inclusion so that all children's environments – schools, health facilities, public transport and so on – facilitate access and encourage the participation of children with disabilities alongside their peers.

④ End the institutionalization of children with disabilities, starting with a moratorium on new admissions. This should be accompanied by the promotion of and increased support for family based care and community based rehabilitation.

⑤ Support families so they can meet the higher costs of living and lost opportunities to earn income associated with caring for children with disabilities.

⑥ Move beyond minimum standards by involving children and adolescents with disabilities and their families in evaluating support and services designed to meet their needs.

⑦ Coordinate services across all sectors so as to address the full range of challenges facing children and adolescents with disabilities and their families.

⑧ Involve children and adolescents with disabilities in making decisions that affect them – not just as beneficiaries, but as agents of change.

⑨ Promote a concerted global research agenda on disability to generate the reliable and comparable data needed to guide planning and resource allocation, and to place children with disabilities more clearly on the development agenda.

⑩ Test being whether every child with a disability enjoys her or his rights – including access to services, support and opportunities – on par with other children, even in the most remote settings and the most deprived circumstances.

Dated 8TH December 2018 - BENGALURU, INDIA.

Dr Mrudula Phadke	**Dr Uday Bodhankar**	**Dr Yashwant Patil**	**Dr Vasant Khalatkar**
Former Chairperson CHPA	International President COMHAD	Advisor COMHAD	Secretary General COMHAD

From Disability To Ability