BULLETIN OF
INDIAN ASSOCIATION OF PHYSICAL MEDICINE AND REHABILITATION

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Editor : Dr Saumen K. De **October-December 2020** **Volume : 10 Issue :3**

In this issue

Obituary : Dr Debapriya Banerjee (17.06.1942 - 17.10.2020)

Dr Debapriya Banerjee, the first MD PM&R in India and one of the pioneers in the field of Rehabilitation Medicine was born on 17th of June, 1942. He had done his M.B.B.S from NRS Medical College Kolkata and MD in Physical Medicine and Rehabilitation from IPGME&R and SSKM hospital in the year 1981 under the guidance of another eminent Physiatrist Late Prof.(Dr) S.K. Banerjee.

Prof. (Dr) D.P. Banerjee was attached to various medical colleges in Bengal, namely, B.C.Roy Polio and Children Hospital, R.G.Kar Medical College and Hospital, Burdwan Medical College and Hospital, NILD (formerly known as NIOH), IPGME&R and SSKM Hopital (1992 to 2000). During his stay in IPGME&R and SSKM Hospital, he guided many physiatrists and helped them in mastering the concepts of Rehabilitation Medicine. He was well known among his students for the vast clinical knowledge in field of PM&R and outstanding teaching abilities. During his tenure, he was also President of West Bengal Chapter of IAPMR (WBIAPMR) from 1990 to 1992. In the year 2002, after an illustrious career, he retired from Calcutta Medical College and Hospital. Prof. (Dr) D.P. Banerjee left for heavenly abode on 17th October, 2020 and is survived by his wife and son.

We deeply pray for his soul to rest in peace and hope to carry on the legacy that has been left by Prof. (Dr) D.P. Banerjee in the field of Rehabilitation Medicine.

Message from President IAPMR

Dear Friends, as the year 2020 is ending, I reflect on the year with **mixed feelings**. Covid-19 has been an unprecedented and very disruptive phenomenon in our lives. It has thrown many **challenges**, as well as provided certain **opportunities**! I am glad that Members of the IAPMR Family faced these challenges bravely and successfully. They also made use of the opportunities by ways of innovations and adoption of newer ways of practicing, teaching-training, using technology, and ensuring safety of themselves and the patients/ persons with disabilities under their care etc.

A few significant events in the past 3 months include organization of the first IAPMR National Mid-Term CME in a virtual mode, recruitment of new Faculty Members in PMR across India, rolling out of the process to elect the new Executive Council of IAPMR for 2021-23, observance of the 'International Day of Persons with Disabilities', and very importantly, removal of the word 'Optional' attached earlier to the PMR specialty! I express my heartfelt gratitude to the Chairman of the earlier Board of Governors, and the current President of the NMC for their kind consideration of **my repeated requests**, and sustained efforts with appropriate justification, for this **landmark change in the interest of growth of PMR in India**. This change now puts additional responsibility on us all.

Due to my limited capacity, other responsibilities, prevailing Covid-19, and a few factors beyond my control, I may not have lived up to expectations of some of you. But I have made sincere efforts.

I convey my sincere thanks and appreciation to the Editor, **Dr Saumen K. De**.

My **Best Wishes** to you all for a Safe, Healthy, and Happy New Year 2021!

You may contact me at **iapmrpresident@gmail.com** or **wadhwadr@gmail.com** if needed. Long Live IAPMR! Jai Hind!!

Dr Sanjay Wadhwa

Message from Hony Secretary IAPMR

Last issue of IAPMR Bulletinfor 2020 and I am delighted to write this message.

I would like to congratulate Dr Saumen De for working nonstop and for bringing out quarterly issues of the bulletin in time in spite of the pandemic.

This time IAPMR Midterm CME washeld in Patna, Bihar on 31st Oct and 1st Nov, 2020. It was unique as this will be the first Virtual CME of IAPMR. I would like to congratulate Prof.Ajit Verma and Dr Sanjay Pandey and their team who worked nonstop for taking up the challenge and successfully conducting this form of CME, with great opening ceremony which was both physical as well as virtual and good scientific content. It has broken all the records till now with more than 400 delegates.

We would be having our49th Annual Conference again in Virtual mode from 22nd to 24th Jan, 2021 in Chennai by Tamil Nadu Chapter of IAPMR and I would congratulate Dr Chellakumar and Dr Premanand along with their team to take up this herculean task. The theme of the Conference is, "**Emerging trends &Concepts in Rehabilitation Medicine**", with 2 Preconference Workshops; **In the Muscles Mind and Spine and Peripheral Joints: Interventional techniques**. I am sure this will a huge learning despite of the Pandemic for everyone. I would like to welcome everyone for the **First Virtual Annual Conference in Chennai and** wish the organizers a huge success for this mega event.

Wish you all a very Happy and Healthy New Year!!Long Live IAPMR!!Jai Hind!!

Dr Navita Vyas

Editorial

I am glad to inform you that we have published the December,2020 Issue of IAPMR BULLETIN. This is the third issue during the year 2020-2021. In this issue we have concentrated on activities related to Disability day celebration throughout the country.

The annual observance of the International Day of Disabled Persons was proclaimed in 1992, by the United Nations General Assembly resolution. The Day is observed to promote an understanding of disability issues and mobilize support for the dignity, rights and well-being of persons with disabilities. It also seeks to increase awareness of gains to be derived from the integration of persons with disabilities in every aspect of political, social, economic and cultural life. Since 1992, the International Day of Persons with Disabilities (IDPD) has been annually observed on 3rd December around the world. Theme for IDPD 2020: "Building Back Better: toward a disability-inclusive, accessible and sustainable post COVID-19 World".

Our own National event, MID-TERM CME was held in AIIMS, Patna. It was organized by Bihar Chapter of IAPMR (BAPMR) on 31st Oct & 1st November virtually. The theme was "Rehabilitation – Redefined". We have tried to cover all the activities related. I am thankful to Dr Sanjay Kumar Pandey and Dr Raj Kumar for sharing all the relevant information and photos.

I have also tried to cover activities on World Osteoporosis Day, SCI Day, World Cerebral Palsy Day, World Spine Day, Mental Health Week by our members and branches of different parts. I have included activities by branches, activities on electronic media, activities and achievements of individual members too.

We have lost Dr D. P. Banerjee, Ex-Prof. & HOD, Dept of PMR, IPGME & R on 17th October, 2020. We are expressing our deep respect for the departed. May his soul rest in peace. I am thankful to Dr Dilip Kumar Khatua and Dr Subhasish Pati for writing the obituary.

I want to thank all the frontline warriors including our own.

I am grateful to Dr R. K. Srivastava, Dr S. Y. Kothari, Dr A.K. Agarwal, Dr R.N. Haldar, Dr V K Sreekala, Dr Mrinal Joshi, Dr Anil Kumar Gaur, Dr Akoijam Joy Singh, Dr M. Feroz Khan, Dr Ritu Majumdar, Dr Anil Kumar Gupta, Dr Sreejith. K, Dr Harshanand Popalwar, Dr Harleen Uppal, Dr Tufail Muzaffar, Dr Sucheta Saha, Dr Abhimanyu Vasudeva, Dr Jyoti for enriching our Bulletin with their articles for this issue. I have requested more of our respected seniors for their write up and I am hopeful that we will get for our next issues. These articles will certainly enrich our Bulletin.

I am extremely grateful to Dr U. Singh, Ex-Professor and HOD, Dept of PMR, AIIMS Delhi for enriching our bulletin by his write-up "My Journey Through PMR". Dr U Singh has achieved a milestone of sorts on 31.12.2020 by way of superannuation after 39 years of distinguished service, as well as more than 22 years as HOD, Dept of PMR at AIIMS, New Delhi. Congratulations Sir for the successful innings and big thanks for everything you did for the PMR and all of us. We all are praying to God for healthy and active life ahead. May your second innings surpass your illustrious first one. Deepest regards Prof. (Dr) U Singh Sir. My sincere gratitude and warm wishes for 2nd innings. I am extremely thankful from the core of my heart for sharing your experiences through your journey and this will definitely enrich all of us.

I am grateful to Dr Sanjay Wadhwa, President, IAPMR; Dr Navita Vyas, Hony. Secretary, IAPMR; Dr R.N.Haldar, Immediate Past President, IAPMR; and all the members of our beloved organization.

All of you know that we are passing through a condition which we never faced before, the COVID-19 pandemic situation since March, 2020. Since then, all the issues till date have been published digitally. In this new normal situation, we have been compelled to become virtual to maintain physical distance. In this scenario, it is obvious to have lack of activities. I have tried to include whatever events, activities (online/offline), achievements on the part of our esteemed members. We were hopeful about meeting in person in Patna, MID-TERM CME and IAPMRCON 2021, Chennai. We also planned to handover the hardcopies of the Bulletin there; unable to do so as the COVID-19 Pandemic scenario compelled to make these virtual one.

I am seeking your co-operation in the form of sharing your activities, achievements and that of organized by different branches generously via e-mail (**E-mail address:** **drsaumen16@yahoo.com** and **editorofiapmrbulletin@gmail.com**) or **WhatsApp:** 94331 24596.

We are still very much worried about the COVID-19 situation. We request all of you to maintain the required safety measures. Stay safe, stay healthy. I am conveying my Best Wishes for a Safe and Happy New Year, 2021 to all of you.

Long live IAPMR! Jai Hind!

Dr Saumen K. De

My Journey Through PMR

Dr U Singh
Professor and Head, PMR
AIIMS, New Delhi

During our third year MBBS days at Safdarjang Hospital, New Delhi (SJH), we had a two weeks posting in PMR, it was during the Summer Vacations in 1975. We were angry why our clinical posting was done during the vacations. It happened to be a good getting along with friends to meet in the hospital and enjoy the free afternoon. I remember, Dr RK Srivastava took one class showing us a case of radial nerve palsy. We didn't remember much about our posting other than remembering the section of electrotherapy, gym and the vocational counselling and training unit there but we did remember the definition of rehabilitation given by WHO. During our house job in Orthopedics, SJH, the department of rehabilitation was next door but was working in tents since renovation was going on there. We met Dr HC Goyal for consultation for our colleague recovering from a fracture. However, despite having rehabilitation during our undergraduate days and early hospital stint, we did not have much idea about what is it actually. One of my college mates could not make it into medicine and took physiotherapy as his career and I had some idea only about that. I was not a very bright student or an enthusiast for an academic career. I wanted to have a cushy job with plenty of money practising but the circumstances did not allow me to start after my house job. I did not compete with a heart for getting into PG in the regular batch and was busy building our house where I thought I would start my practice as a GP. During mid-session, admission was announced for DPMR. It was a newly started course by the University of Delhi. I applied for it and was lucky to get it.

Dr BP Yadav was my first teacher, I was posted with, to assist him in his clinics. His words of wisdom still ring in my ears. Be patient to listen to the patient, we never know, what for the patient came to us. When you examine the patient, run your thoughts and hands on the whole body of the patient. It is a message I like to pass on to my students. It helps not only on the medical diagnosis but also gives us the assessment of the remaining abilities of the patient. Besides, in rehabilitation, we are working for the integration of the person with disability into the society, it helps us assess the person as a whole. This is the crux of rehabilitation that matters to achieve the patient's full potential putting a lot of demand on the doctors' vastness of the knowledge.

Dr RK Srivastava was a much respected doctor in PMR. He was not an easy person to please. He was tough in his dealings but very meticulous in his approach. He would throw challenges of learning and would scold and laugh if we made a mistake. He set standards as high as his knowledge, no one could match. I still remember, he challenged that learning gait analysis was difficult; we worked out that it is so easy just to walk ourselves and remind ourselves what happens in what stage of the gait cycle.

Dr HC Goyal was a true teacher of rehabilitation. His approach towards the patients was like walking with the patients in the patients' shoes. He gave us the true practical understanding of rehabilitation by way of counselling, specially sexual counselling of all patients with spinal cord injury. I was a procrastinator to assess patients to be presented in the case conferences. He would say: "you spend time to tell the patient when to come for assessment and then you do the assessment on another day and then call the patient for presentation. What is this? You are not only wasting your time but also putting a stress on the patients to spend more time and efforts." It gave us a new lease of time and an inclination to finish what is at hand at that time only. Same was the approach by my learned mentor, Dr SK Varma. He would never let anyone go back from his clinic whether it was late in the evening outside the registration hours, even if, we were sitting in a daily meeting in the evening to discuss what more can be done in the department to make it better. He would say, we waste more time turning away patients and spoil ours and the patients' mood than we would giving a quick advise and call the patient for follow up at the convenient time in the OPD. That makes your life and that of your clients much pleasant.

Senior residency at SJH was somehow evasive. Dr SK Varma was my examiner for DPMR. He was kind enough to accommodate me in his project at AIIMS. God finds ways as per your destiny. I rather feel lucky that my path was ascertained in this manner. While I was preparing for National Board Examinations, he would ask me what I was reading and ask me questions. It was one of the best stimuli I ever received to study more. He would point out if I was fumbling and ask me to work harder. Not only did it make me learn, but also made me glide through the examinations without any difficulty. This quality of a teacher is the most noteworthy to keep a tab on the student's progress and also to encourage him to do more. He would give us topics to read and then write for the presentations to be made at CMEs. He would not be satisfied with what we do. He would sit down and then say what more needs to be added and show us his final presentations for us to learn more. He was a true teacher of the teachers. I was interested in research but did not have any idea about how to go about it. I participated in the ongoing projects and did a few extra stints in doing a couple of studies being done in the department by other seniors. I was introduced to the IAPMR conferences by Dr Varma. He persuaded me to present the research work of the department with my name as number one which also got published with me as the first author in an indexed journal. I was

so deeply surprised that in a similar situation at my earlier institution, I was asked to write a case report on an unusual case in the ward, it got published but without my name anywhere. On asking, I was told that there were too many names, so my name was omitted with an unfulfilled promise to be accommodated in the next paper. That was the example of integrity. If I wanted, I could have put my name first on every publication in the department being the head or the person with seniority or power. Dr Varma showed an example of how to encourage juniors be more confident.

Problems of authority and interpersonal relations in a big team of rehabilitation were there when we were PGs and they are continuing the way they were even now. It shall remain the way it is. Going by the 'team' approach, everyone in the team is important and if one says, his role is more important than the other, it is logical. The trick behind this is to be respectful to all. Instead of showing someone down, it is more important to rise to a level that with your standards, it becomes difficult for others to reach you or destabilize you. Every type of work is important. I was given an example by my uncle that in his village, there was one cobbler, who would do the mending of the footwear so well that you could not differentiate the stitches he did with hand from those done by the machine. People would stand and look at his head bent deeply engorged over his work. That should be your stature that people envy what you do with your expertise. Then there is no challenge. You shall always be on firm grounds. Respect others to gain respect but always be vigilant. That is the key to work in a team where difference of opinion or struggle for power is naturally there all the time.

IAPMR gave me plenty of opportunities. I served as Treasurer and Joint Secretary. Later Editorship of IJPMR was thrust upon me. I tried hard while some were pulling by legs to bring me down. In the early years, when internet was in the nascent phase in beginning of this century, we had our IAPMR website, conference notices and then our journal put up on the web at my initiative despite the association meetings laughing the matter out and say what I was talking about. I nurtured the IAPMR websites and the Journal's website at my own expense for a long time. Now we can't live a minute without the net. The egroup of IAPMR was initiated with my efforts more than 20 years ago and growing strong even now. I am not trying to boast but only trying to convey that think ahead and be at par with the technology.

I had opportunity to work in the UK for Commonwealth Fellowship. I was asked by my guide to continue to work there. I thought, PMR is new in India, if I don't go back and make it shine, who else would. I declined the offer. I am proud of that decision and am proud to have so many of my students reach the heights in their careers.

Even though PMR is less known and misinterpreted in the whole world including the medical fraternity, its services are needed by every household we look at. That is the beauty which impressed me and I like to tell my students. It does not matter how people look at it, if you do your job well, you don't have to prove it to anyone. They get to know about it. Hence, just keep doing your good work wholeheartedly. PMR would keep shining and keep going higher with the efforts of each one of you. Over the years, that is what I have learned and experienced. I have enjoyed my journey despite many ups and downs. I have no regrets. I am so happy to have sown many seeds for good PMR specialists to grow and make the specialty stronger. With my term at AIIMS ending in another month, when I look back, I only see roses all my paths giving me the aroma and of course some thorns in my course. Who says, life is just a smooth journey, if it was just rosy, you would not enjoy it.

I would like to thank Dr Saumen De for inviting me to write this.

Superannuation of Professor U Singh Sir – A Few Sentiments - Dr Sanjay Wadhwa

Prof.U Singh Sir superannuated on 31 December 2020 after serving AIIMS, New Delhi for almost 4 decades. He is a 'Teacher of Many Teachers' in PMR! He has been very lucky in many ways, and you may be surprised to know that U Singh Sir was born on 25 December 1955! I had almost 35 years long and eventful association with Sir! I wish U Singh Sir the best of health, happiness, and peace in his next innings. I seek his continued guidance and good wishes so that I can take the department to greater heights which it is capable of. I am sharing a group photo clicked on his last working day.

Specialist Training and PMR

Dr Mrinal Joshi
MBBS, MD, DNB, MNAMS, GCMskMed.,
Director, Rehabilitation Research Center & Senior Professor, Dept of Physical Medicine & Rehabilitation,
SMS Medical College & Associated Hospitals, Jaipur.

The Bhore Committee (1946) is the basis for undergraduate and postgraduate medical education. Medical colleges provide training to medical students as well as tertiary level health services to the public. Administrators planned universal health coverage through health centres and hospitals at village, tehsil and district level.

Even after so many decades, the lack of facilities, poor administration and inadequate compensation to rural/sub-urban health worker prevented the development of competent services at these level—this lead to increased pressure at outpatient services at a tertiary level, including medical colleges. These changes are slowly pushing medical colleges to focus more on health services than education, threatening quality education to budding doctors. Gradually administrators have losing public faith at hand towards primary and secondary health services- they thus wish to either attach these district hospitals to a medical college or open medical colleges at every district level, even at some tehsils also.

This sudden expansion lead to lack of teaching faculties, so to patch up, administrators redesignated non-teaching specialists as professors and increased postgraduate trainee admissions to two to three folds for fulfilling these needs. The quality standards are also tuned down to accommodate the laggards in this scheme while tipping the teacher-student ratio and clinical bed-student ratio in clinical units. (There is a vision to provide doctor-population balance as 1:1000, equivalent to ASHA and Anganwadi workers.)

Postgraduate teaching, unfortunately, has not evolved at a pace as undergraduate level. Specialist training is done informally at the workplace, & a specialist trainee is "expected" to be motivated as he chooses the speciality and has to focus on the three Rs, reading, remembering and regurgitating. On the other side, medical teachers have not moved from **PHOG** approach to education (one with **P**rejudice, **H**unches, **O**pinion & **G**uesses).

A specialist to work independently requires skills, ethical attitude, professional behaviour and interpersonal skills. Neither the apprentice model nor a competency-based model can achieve it. In my opinion, an amalgamation of two theories, Miller's four-stage pyramid model (knows, knows how, shows how and does) and Vygotsky's zone of proximal development (stretching the way of thinking by providing interaction with a more knowledgeable person) can improve the teaching. Simulated environment training is one such example. Also, passive lecturing can be replaced by "flipped class" where all the students complete a designated work before coming for the class and utilize the class time for discussion and feedback. The teacher should train the postgraduate student to enable, how to ask the right questions, where to look for answers and how to evaluate the responses received.

If we fail to improve our postgraduate education, we'll have a large number of incompetent specialists lacking professional skills; chasing patients while providing unnecessary procedures and prescription.

The new commission should ponder on these aspects with a long term vision to provide competent medical specialist, meaningful to the needs of the country. The commission should have essential representation from all specialists in the council or else confusion and errors will happen while charting out the curriculum as has frequently happened with Physical Medicine & Rehabilitation. Even after many decades, we do not have a full document or perception about the essentiality/ feasibility of Physical Medicine & Rehabilitation or minimum standards of teaching units/care. Therefore, there is no universal standardized teaching facility or skills training across India.

There is always a reluctance to change, but "***Amrit cannot be gained without Manthan***".

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Disability in India-Where is it going?

Dr R K Srivastava
Ex-DGHS, GOI

Since 1981, when International Year of Disabled person (IYDP) was celebrated by the UN, India declared its Ministry of Social Welfare as nodal ministry for disability sector. Before 1981, disability was under Health Ministry. It was a bold decision of Indian Government, signaling that it considered disability a social issue primarily, which needed primarily social measures to solve it. It was not contested by Health Ministry, although disability has its origin from diseases/injuries and the solutions to disability related problems are to be initiated/provided by doctors/medical professionals. Although, before 1981, many medical colleges developed PMR department under state government. AIIPMR, Bombay and AIISH, Mysore were developed as national level institutions by central Health Ministry, but still there was no answer to the question as to why Health Ministry decided not to contest this decision. There is no denying that disability is a social issue, but it also remains a fact that disability has its origin from diseases/accidents, which are exclusive responsibilities of the Health Ministry.

IYDP (1981) called for plan of action with the emphasis on equalization of opportunities, rehabilitation and prevention of disabilities. The main global outcome of IYDP (1981) was the World Program of Action Concerning Disabled Person (WPADP), adopted by UN General Assembly in December 1982.These efforts ultimately resulted in declaration of 3rd December in1992 as the International Year of Disabled Personby UN.

Even in 2020, on IYDP, we see lots of functions/ public meeting/disability day celebration/aids and appliance distribution melas/national award functions/newer partnership and disability care initiative and program being launched in India, but simultaneously, it cannot be denied that we also see increasing unrest/litigations about lack of access as well as poor quality of disability care at blocks/districts level in every state of India.This is the situation disability today in spite of the fact that Health Ministry could add PMR department in 20% medical colleges, started programs like RBSK with early detection and intervention for all types of disabilities nation wide, while Welfare Ministry could create a separate department of Disability Affairs at ministerial level, 3 secretary level positions 1 to head department of disability affairs,1 as chief commissioner of disability, and 1 as chairperson of national trust affair, 3- laws (RCI, PWD Act, National trust), 9 national institutes, 19 CRC, SICs, 50+ training programs, AIDP-Welfare Scheme, 500+ DDRU in district hospital, etc.

So,where is the problem? What went wrong during these last 40 years? Why community-based rehabilitation, which was recommended model of universal rehabilitation care could not reach to every block in India?

Let us look into it in more detail to grasp the root cause of problem before suggesting solutions:

Recap of Disability care before IYDP (1981) : (A period of medical superemacy)

From independence, disability care was as integral component of health care, as rehabilitative health care under Ministry of Health & FW. Historical records show that health department has done a lot before IYDP (81). We could see PMR departments in medical colleges in Kerala, Tamil Naidu, Rajasthan and UP under state government and AIIPMR, Mumbai and AIISH, Mysuru under central government.

We could also seeem ergence of eminent medical doctors like Prof.BaluSankaran, Dr M V Sant, Prof P K Sethi, Prof M K Goel, Prof I S Shanmugam, Prof PBM Menon, Prof S K Banerji, Dr B P Yadav, Professor S K Verma, Prof WG Rama Rao, Dr Susheela Varma, who acquired training or qualification in PMR from world class medical universities/colleges of UK, US and Scandinavian countries. They in turn trained many other Indian medical doctors, took up the task of developing holistic rehabilitation care model, and initiated research/teaching thereon in disability sector. They took PMR as their professional career, most of the time, at the cost of lucrative private practice of their primary specialization. It was their social commitment and hard work for disability sector, which provided a solid platform to take newer and newer initiatives at the ministry, institution and individual level to contain/control and rehabilitate disabled persons.At the central level, Health Ministry started its National Blindness Control Program and National Program for Elimination of Leprosy. And at the same time, it debated about National Program of Control of Deafness, which could not be started. Respective state health ministry's took many local initiatives like specialized Paraplegic Rehabilitation Centre in KGMC, Lucknow and Kirkee Pune under AFMC; Rubber foot development for rehabilitation of Amputee in SMS, Jaipur, Comprehensive Multi-Disciplinary Rehabilitation Team Model in Delhi, Kerala, TN, WB, etc. Institutions were built up and named as PMR institutes/departments in Mumbai, Lucknow, Rajasthan, WB, Kerala, TN and Bihar. All these developments were offering holistic solution to disability issues by providing comprehensive multi-disciplinary rehabilitation care to address medical/psychological/social and vocational problems of PWDs. These provided a strong platformto Ministry of Social Welfare to develop India's Program of Action Concerning Disabled Person in response to global call after IYDP (1981), although without transfer of infrastructure from health ministry to ministry of Social welfare.

Recap of disability care after IYDP (1981): Period of transition to Social Welfare Ministry

After 1981, when Welfare Ministry was made nodal ministry for disability affairs, there was palpable reluctance on part of health ministry to invest in disability care and PMR services stopped developing. Only WHO funded activities and some specific disability related issues like disability certification as referred by Ministry of Welfare were main activities under health department. On the other hand, Welfare Ministry step by step developed ministerial level structure, legal framework, institutes, program and schemes.Intelligently, the JS of Welfare Ministry, responsible for disability care, utilized expertise of health ministry to develop India Program of Action Concerning Disabled Persons. Eminent doctors of health ministry did hard work to establish Disability Care Unit in Welfare ministry. They were recognized and rewarded as well.

In around 2000, Welfare ministry became self-sufficient to handle all disability issues, including health issues. There was appreciable encroachment on health care, visible in scheme/programs and institutions of welfare ministry.

The development after 1981 could be put under 2 major periods.

It was a honeymoon period (1981-2000), when best brains from medical sectors committed their time/knowledge/hard work in Welfare ministry to build the disability unit

It was a separation2 divorce period (2000-2020), when medical doctors were cunningly discarded in Welfare ministry from disability unit, as they were obstacles in IAS ownership of Disability Care Infrastructure.

Under Health Ministry:

1) Honeymoon period (1981-2000)

During this period, all stalwarts of medical field committed themselves fully to work entrusted to them by Welfare Ministry to develop disability unit, its program and plan. They were rewarded in return

- International Sports for Disabled persons were organized in 1982, where Indian team was led by Prof M. K. Goel of KGMC, Lucknow and participants were largely disabled persons under treatment in PMR department.
- A plan scheme was started in Safdarjung Hospital to upgrade PMR department for infrastructure development, human resource strengthening and starting new training program for Multi-rehabilitation worker and Diploma in Orthotic and prosthetic.
- A five storied Rehabilitation and Artificial Limb Centre was converted into a separate PMR Department in KGMC, Lucknow.
- New Building for AIIPMR, Mumbai was constructed
- DNB Training in Physical Medicine & Rehabilitation was started in some institutes/Medical colleges like AIIMS and SJH, New Delhi/AIIPMR, Mumbai/ SMS Jaipur/ GIRM, Chennai/ PMR department, Trivandrum /Calicut etc.
- MD in PMR was started in many MCs in Southern states, West Bengal and Rajasthan.
- MCI listed PMR department as an optional department for opening of new MC and recommended MD PMR as essential qualification for recruitment of teaching faculty. It also recommended for 15 days optional training in PMR department during internship
- Manual for Assessment of Permanent Functional Impairment was development after a WHO supported Expert Group Meeting in AIIMS,Delhi.
- Training for Trainers for CBR was developed by WHO with support of Indian/Asian experts, which finally resulted in first Manual for trainers of CBR for all sub-categories of disabilities.
- Field Demonstration Centre for CBR was established in Mumbai/ Trivandrum.
- WHO-CC for CBR was created in PMR Department, AIIMS, New Delhi
- ICMR started promoting and funding R&D in Disability.
- Prof. P K Sethi was awarded Magsaysay award for his Jaipur Rubber foot
- PMR department and IAPMR organized many training program/expert group meetings.
- PMR stalwarts like Dr BP Yadav, Professor S K Varma, Prof. WG Rama Rao, Dr K K Singh, Prof. A K Mukherjee, Prof. P K Sethi, Prof. PBM Menon, Prof. IS Shanmugham, Prof. S K Banerjee assisted MOSJE to develop its Disability Unit in ministryand headed its various regulatory bodies like RCI, many EC of NI etc.

2) Seperation 2 Divorce Period: 2000-2020 :

During this period, association of medical experts with Welfare Ministry gradually reduced on account of its use and throw policy and main focus of medical experts was to build PMR departments

- PMR department/MD training in PMR/ DNB in PMR expanded.

- PMR department was made integral part of new AIIMS like institute from inception stage, which has expanded to 22 new AIIMS like institution
- Rehabilitation research cell was organized in ICMR with dedicated fundng
- A new central scheme for strengthening PMR department in Medical Colleges was started under DGHS, by MOHFW, GOI.
- A new national program for control of deafness was started by MOHFW.
- Hybrid tele-linked training program for DLHS was stated under AIISH, Mysure with a satellite training centre in AIIPMR, Mumbai, MAMC, Delhi and in around 50 district hospitals in India
- PMR was made mandatory for opening of new medical colleges and for increase of seats by MSR of NMC. Competency based PG training curriculum for PMR was created
- All new AIIMS like institutions (22 already approved of which 7 are functioning) have established PMR department. Many MCs in private and public sector created PMR department. Some of the PMR department started PG course
- National Deafness control program was started

From the above information, one can appreciate development in disability care under health ministry, which was unplanned and unstructured at government/regulator/institution/college and public health level.It was more due to individual efforts and not due to system development.Hence, it could not fill the gap in disability care at teaching/ training, disability service and research level during last 40 years after IYDP.

Under Welfare Ministry :

It could be divided into 2 periods. First is period of medical learning/capacity building (1981-2000) and second IAS ownership (2001-2020)

1) Period of Medical Learning: (1981-2000)

Ministry of Welfare inducted best brains from health ministry during this period, incentivize them by perks/position and used their knowledge to build its Disability unit, Strategic Plan, national/regional program.

Ministry of welfare moved in a planned manner to develop a system for disability care.

- It created an infrastructure in form of separate division in MOW first called as disability division with independent charge JS/AS level officer and a dedicated budget head, which cleared growth pathway year after year with assured funding.
- It gradually positioned itself at UN/WHO level as nodal point for disability related activities, thus making social model of disability care accepted at international level, albeit without partnership of MOH
- On one hand, it created Scheme for free distribution of Aids and Appliances, Scholarship for disabled students, scheme for funding support for welfare activities for disabled person at end-user level andon other hand, it built up national and regional level institutions by creating national institutes (NI) and Regional Rehabilitation Training Centre (RRTC), later on named as Composite Rehabilitation Centre (CRCs), along with a centralized manufacturing factory of aids and appliances (ALIMCO) in UP. All these activities were centrally funded.
- It created legal framework to safeguard rights of disabled persons by enacting Person with Disability Act, Rehabilitation Council Act and National Trust for CP, Autism multiple disability and MR and a parallel legal redressal mechanism for violation of law by Chief Commissioner of Disability at national level and state commissioner of disability at state level with quasi-judicial powers.
- It started National Handicap Finance and development Corporation to fund disabled persons in developing entrepreneurship/self-employment
- It also started health care services without health ministry in some of its institutes like NIOH, Kolkata/ NIRTAR, Cuttack/ IPH, Delhi/AYJISH, Mumbai/NIMH, Secunderabad as it realized that disability care is incomplete without health care. Some of these institutes even started DNB training in PMR.
- It also started a national program of training of PHC doctors in disability care, which trained few thousand PHC doctors for disability care.
- It also created District Rehabilitation Centre scheme-later on called District Disability Rehabilitation Unit in District Hospital to complement and supplement disability certification, aids and appliance distribution and therapy
- It created separate funding scheme for disability related research
- **It launched umbrella scheme for funding NGOs for disability care for outreach care.**

2) IAS Ownership Period : 2001-2020

It gradually dissociated itself from medical stream and nurtured para-medical under control of an IAS officer within its various infrastructure

- It consolidated its last two decades development, which was having infrastructure in all states with a regular budgeting stream, ultimately resulting in creating more infrastructures, human resources, service delivery system in silo without utilization of massive health infrastructure
- The 9 NIs in Dehradun, Mumbai, Secunderabad, Chennai, Cuttack Kolkata, New Delhi and Sehore become Centre of Excellence in their respective field/states and they were linked to 19 Composite Regional Rehabilitation Centre (CRC), which acted as its extended arm for HR development, rehabilitation care, skill training and R&D.
- DDRUs were extended in almost ½ of districts of country to provide disability care at district level.
- The Disability division was converted into full-fledged Department of Disability Affairs with dedicated budget, which ensured horizontal reservation to PWD in government jobs and training schools/centre. Ability based jobs were identified for group A/B/C/D services in government sector.
- The Office of Chief Commissioner Disability and State Commissioner Disability started proactive action to safeguard the right of PWDs.
- National Awards for PWDs in different categories become a regular annual feature and
- Technology driven awareness was launched on massive scale in print and visual media.
- IYDP became annual advocacy event in the country through this infrastructure

From above one can see development in disability care under Welfare Ministry, which was planned and structured at government/regulator/institution/college and population level. However, it could not reach to PWDs in villages, because it was developed as a separate vertical without using the infrastructure available in public health system. It resulted in lots of duplication of efforts and expenditure during last 40 years after IYDP, which has drawn adverse comments from end-user groups, funding agencies and court

This scenario of disability care clearly shows that present vertical approach of DODA has not been able to give holistic disability care to last mile PWD, as he/she has to run from pillar to post to avail medical care & disability certification/welfare services/aids and appliances, resulting in incomplete care, poor outcome, catastrophic expenses impoverishment, high DALYs, minimal empowerment, least equalization of opportunities, often violated social justice and minimal social integration. Both health and welfare infrastructure celebrate all public events related to disabled care, but the rehabilitation outcome, which is ultimate goal is mostly compromised. The disabled population at large is not getting universal rehabilitation care.

Problem Area:

The actions of DODA does not match the rights enshrined in PWD Act and RPWD ACT. Even after last 40 years of actions of nodal ministry, DODA still has not been able to give holistic disability care to the last mile PWD, prevent catastrophic expenses, impoverishment, high DALYs, minimal empowerment, least equalization of opportunities, often violated social justice and minimal social integration.

What has been lost during these 30 years from IYDP (1981) by Health/Welfare department?

It is convergence, targeted actions and bottoms-up system development

At the Ministry level, both Health and social welfare are grouped as social sector ministries. Health had been practicing unproclaimed right based approach, while social sector had been following a charity-based approach under the proclaimed right based model. It is always difficult for later to actualize the right based model in letter and spirit and for former to integrate charity-based interventions. All global guidelines/ actions/direction/rules/laws, be it CRPD (2006) or SDG (2016), are looking at human health and welfare from right based angle, but India is finding it difficult to plan right actions as prime source (cause) of disability is under control of health ministry, but the major action and funding is with nodal welfare Ministry.

So, the 1st problem is at ministry level, which is unavailability of robust operating platform of Health and Welfare Department providing single window for care for disabled person in these 40 years

At the Institution level, under both Health/Welfare ministry, be it NIOH Kolkata, AIISH, Mysore, IPH, Delhi, AIPMR, Mumbai and AYJIS&H, Mumbai or PMR Department in MCs/AIIMS or NIs, CRC SIC DDRUs, we will notice a silo-based operation, duplication, unfulfilled promise for reaching unreached and year after year increasing expenditure on care for disabled person. So, even after increasing cap-ex and op-ex, they do not yield desired outcome, which is valued by PWD and is measurable in terms of rehabilitation outcome as well as return of investment (ROI), which is necessary for sustainability of such institutions.

At 2nd problem is atinstitutional level, which is unavailability of robust institutional platform of Health and Welfare institutions assuring domain-specific care for disabled person through single window in these 40 years.

At the population level, under both Health/Welfare ministries, be it at centre level, state level, district level, block level or village level under various schemes like Ayushman Bharat HWC and PM-JAY components, its CPHC program, its various population based public health program under NHM, under health Ministry or under AIDP scheme, Sugamya Bharat Abhiyan, scheme for implementation of PWD Act, Deen Dayal Upadhyay Rehabilitation Scheme, scholarship for disabled student scheme, National Skill Training Plan for PWD, Awareness generation and Publicity Scheme, under Welfare Ministry (Department of Disability Affairs); there is unavailability of any connect, resulting is poor yield from schemes/program in terms of rehabilitation of PWD and measurable return of investment.

At 3rd problem is at population level, which is unavailability of robust population-based platform of Health and Welfare schemes/programs assuring population based care for disabled person through single window in these 40 years.

All international strategic documents, including the New CBR strategic Matrix, WHO Rehabilitation: Call for Action 2030, Health Policy and Systemic Research (HPSR) Agenda for Rehabilitation, SDG (2016), etc. are all converging disability and comprehensive rehabilitation at all levels within all structures/program/schemes in order to optimize budget and maximize outcome with proper technology application.

This means that India does not have time to wait.

Solutions:

For a 40-year-old problem we cannot offer an instant ready-made solution. It has to pass through the following steps:

1. Reality Check,
2. Acceptance by responsible ministries of outcome of Reality Check,
3. Accepting Need of Convergence
4. Replanning all program/initiative at
   a) Ministry/institution/population level, and
   b) Developing an Outcome based M&E system and
   c) ROI Appraisal Mechanism

These steps are beyond the scope of any critique on disability care, as they all belong to ministries/government, where a huge infra-structure has already been developed with 2 different ownership ministries, which had already created/filled large number of posts, provided regular budget, powers and control mechanism, inbuilt in government system both at centre and state level during last 40 years. Sharing them with other ministry is essence of convergence and is most difficult task at execution level. In this process, compromises at governmental level in past have resulted dilution of outcome of disability care and poor ROI - be it between health and WCD in past or DODA and MOHFW in possible future. Time has come when at ministry level, a lesson should be learnt from past. If we look at NHFS-5, which has released its finding of 17 states & UTs in December 2020, it clearly shows that nutrition sector, failed to achieve its goals, simply because it is divided in health and WCD ministries.

A mechanism of convergence, which is only suggestive, is given below:

1) Option 1:

At PMO level there should be high power committee under some retired Cab. Sec. to take stock of various infra-structures/ program/schemes/budget in health & Welfare (DODA) Ministries, working for disability care and redistribute them along with transfer of asset/liabilities. There should be a representative member from disabled persons. It has happened in past as well andmay be most feasible today administratively, if done without bias and with sole concern to improve outcome of disability care. However, there may be difficulties in Asset and Liability transfer, if transfer is imposed and not mutually agreed at respective secretary level.

For example, the DDRU Scheme which operates at district hospital level, but is funded or controlled by Welfare (DODA) Ministry. It should ideally be transferred to health Ministry So are NIOH, Kolkata, NIRTAR, Cuttack, IPH, Delhi, Spinal Injury Rehabilitation centre. Every year they are budgeted under Welfare, but have never done justice to disability care as well as to return of investment.

2) Option 2:

Two phased action plan would be required:

Phase 1: Interim Arrangement (For 2 Years)

There should be a Joint co-ordination mechanism (JCM) at centre and state level under the joint chairmanship of secretaries

of both ministries, constituted by PMO for Health & Welfare Ministries. The member secretary of committee should be concerned JS. There should be a representative member from disabled persons. The chairmanship and Member Secretary should be for 6 months on rotational basis from 2 ministries. JCM should meet once/every month.

The ToR of JCM should be:

1. To undertake outcome-based studies of various infrastructures/program/schemes/institutions budget in health & Welfare (DODA) Ministries for disability work.
2. To examine findings of outcome studies and recommend & ensure implementation of reforms at respective ministry's level.
3. To assess sustainability and priority of these reforms at annual interval by conducting ROI studies
4. To identify transferable assets from/to both ministries
5. To lay down framework of transfer of Assets

Phase 2: (For 1 year)

The ToR of JCM is complete transfer of assets fully.

It may have least problems

3) Option 3:

Cabinet Secretary should discuss with both Secretaries and finally decide to fully hand over disability care related infrastructures/program/schemes/budget to one of 2 ministries or create a separate ministry of Rehabilitation Care for PWD.

Such transfer had not happened in past and moreover, the basic nature of disability care requires jointownership at health and welfare level, as former handle cause and later effect, which ultimately will yield holistic disability care. Creation of new ministry may be lengthy process and may not be possible. However, it appears least feasible.

In conclusion, disability action in India is not moving in right direction. It is very top heavy and bureaucratized. Last 40 years have shown that it is not working and delivering desired outcomes. So time has come for out of box solution which is user friendly, technology driven, cost effective by utilizing all available infrastructure anywhere to offer comprehensive disability care from a single window, so that India could meet its commitment in CRPD as well as SDG. I would like to emphasize that the issue is real and it is time sensitive as delay will leave India far behind its global strategic commitments, hence collective action needs to be taken up by all with all seriousness.

BIO-SKETCH of Professor (Dr) Rakesh Kumar Srivastava

Professor Rakesh Kumar Srivastava, MS (Ortho), DNB (PMR) is an eminent public health expert, who has occupied important positions of Director General of Health Services and Chairman of Board of Governors, MCI and is presently advising WISH Foundation, Delhi for its public health and innovation driven activities. He is associated with ICMR as Advisor to DG, ICMR on Disability research and chairman of PCT committee and member of technology transfer committee, with DHR as member of Advisory committee in MTAB, with NBE as speciality board chairman of PMR, and with Orissa Government for Public Health system reform, besides serving on various committee of MoHFW, NBE, DoDA, SEARO Office, WHO etc.

He was instrumental in developing 12th Plan of MoHFW, establishing National Organ Transplantation Programme, National Rural health Mission, National Deafness Control Programme, PMSSY-1 and 2, Dialysis Services in PPP mode in Delhi, besides improving efficiency of various national health programme and governmental Hospital. He was partner in developing National Population Policy in UP in 2013.

He is also Executive Committee member of Kalam Institute of Health Technology, advisor to many technology and innovation start-ups

He had been awarded with many national/international awards and has got large number of publications to his credit.

Presently, he is devoting his time and energy for primary care both in urban/rural area by using right innovation and technology at right place. He has partnered through WISH with BIRAC and ICMR for integration, piloting and validating new technologies and innovation in primary care. He assisted WISH foundation to develop a technology driven HWC, which is in operation in Rajasthan, MP, UP and Assam, where technology is used to plug the service gaps

He has been able to put 10 innovation in primary care both in rural and urban setting and there are around 20 in pipeline.

Early Intervention in a Newborn Child Basis of Actions

Dr S Y Kothari
Professor & HOD, Dept of PMR, AIIMS Bhopal

Dear young Physiatrists, what is the reason that a cow's calf stands and walks immediately after birth but a newborn human being takes one year to come on to his feet ? The cow's calf has well developed and myelinated neuronal network in body at birth but in human beings it is not so. At birth only some cranial nerves are myelinated barely enough for some basic function of sucking, deglutination, etc. Further functions develop cranio-caudally as myelination proceeds.

Immediately after birth, we should do basic examination and have a preliminary decision about future actions. But repeated and periodic examination/ observation is very essential for course corrections

The best basic interventional-therapist is an experienced &/or motivated mother/grandmother.

Development of Brain and Body functions

At birth, prenatal size and basic survival functions are present. Size doubles in first year, by 3 years 80% and by 5 years, 90% brain develops.

As the nervous system develop Cranio-Caudal, the functional development occurs

Domains of development are- Physical, Socio-cultural, Computational, Cognitive, Linguistic.

For this development there is a definite Biological & Biochemical basis.

Sensory-motor development-Child gains Control, Power and coordination of muscles of the trunk, arms, legs and hands through sensory input of sight, sound, smell, taste, hearing and proprioceptive senses.

Diet rich in fats like fish oil, coconut oil, butter etc with various vitamins and minerals are contributory factors in growth of nervous system

Various causes may be evident like microcephale, low birth weight but many are unknown. In case of premature birth, should be done after correction for assessment the period of immaturity.

It is very difficult to divide line between Normal and Abnormal. Cause may be Prenatal or Birth Injury. Avoid hasty comments about prognosis of development or future intelligence. Only Gross Neurological Signs have some predictive value.

Major areas of early development are- Vision & Hearing, Social and Emotional development, Speech and language development, Gross motor Skill Development, Fine Motor Skill Development, CognitiveDevelopment (ability to learn and solve problems).

Music, Daily exercises and activities and peer group interactions are major source of brain stimulation&consequent development

At birth we have to examine for Basic Survival Functions-

Rooting Reflex, Sucking & Deglutination; Hearing (Evoked potential), Vision (Evoked potential), Physical Defects like CDH, Patent Anus, Any Other Gross Deformity, Neurological Defects, etc.

Mile stones are well known to all of you

Key fine motor developmental milestones

4 Months	Bidextrous Reach & Grasp
6 Months	Unidextrous Reach, Transfers objects Palmar grasp
12 Months	Mature Pincer grasp
15 Months	Self feed with spoon
18 months	Scribbles Self feed with cup
24 Months	Turns pages of book one at a time

Tower of cubes

15 months	2 blocks
18 months	3 blocks
24 Months	Make a train
30 Months	Train with chimney
36 Months	Bridge, Tower of 9 & 10
48 Months	Gate
72 months	Steps
3 years to 7 years	Two dimensional shapes of circle square triangle
9 years to 11 years	Two dimensional shapes of cylinder and cube

- **Key social and adaptive milestones**

2 Months -	Social smile
3 Months	Recognises mother Anticipates feeds
6 - 7 Months	Smiles at mirror Recognises strangers
9 Months	Waves Bye bye
12-15 Months	Comes when called Plays simple ball game

Social Skills

- 2 Yrs - Dry by day, Asks food,drink,toilet, Pulls people to show toys.
- 3 Yrs - Dry by night, dress or undress himself under supervision, share toys, knows full name and gender.
- 5 Yrs - Dress and undress without supervision, helps in household tasks

Key language milestones / Hearing and Language

- 1 MONTH - Head turns to sound
- 3 MONTHS - cooing
- 6 MONTHS - Babbles, Monosyllables (Ma, ba)
- 9 MONTHS - Bisyllables (Ma- Ma) (Ba - Ba)
- 1 yr - 2 words with meaning
- 18 MONTHS - Vocabulary of 10 words
- 2 Yrs - simple sentences with 2 words
- 3 Yrs - Tells age and sex, Handedness, uses pronouns, identify colours
- 4 Yrs - Tells story, sings song or poem

Hearing

- 3 - 4 months - turns head to source of sound
- 4 - 6 months - localises sound below the level of ear
- 7 months - localises sound above the level of ear
- 10 months - Directly looks at source of sound diagonally

Vision

- 1 month - fixates to mother
- 6 Months - follow objects of interest
- 1 yr - follow rapidly moving object

Here, one point needs to be remembered. The upper age limit for mile stones is one and half times of usual normal limit and one needs to avoid panic reaction if otherwise the child appears normal

Visual fixation / following	**2months**
• Vocalization	6months
• Sitting without support	10 months
• Standing with assistance	12 months
• Hands and knee crawling	14months
• Standing alone	17months
• Walking alone	18 months
• Single words	18months
• Imaginative play	3 years
• Comprehension, Single words, Phrases	Any age

Early Intervention

Early Intervention starts in every child even if the child is Normal….Mother starts interaction. This has positive effect on development. This helps in developing Normal Connections in brain

If there is any problem, we have to stimulate to augment/facilitate early development of formation of connections. Here Neuroplasticity comes into play.

Neuroplasticity is activated on the following principles-

Ability of neural networks in the brain to change through growth and reorganization

Individual neurons make new connections

Synaptic adjustments like cortical remapping

Sensory motor integration-refers to a process by which these two systems communicate and coordinate with each other.

Result is-Growth of the child in motor, social and mental domains which depends on this foundation process.

How Sensory-Motor integration acts--

A Sense organ receives a stimulus

Nerves carry the information to brain where it is interpreted

The brain then determines what response to make and transmits its instructions to the appropriate (same level) group of muscles that carry out the response

Several repetitions of such movements are needed for learning process to complete

Cues & Response

Sensory Stimulation to Lips and Cheeks, Sensory Stimulation to Tongue- Speech

Colorful & Moving Toys, Sound Producing Toys- vision, hearing, attention, social,motor and cognitive functions

Tactile Stimulation and Balance on Therapy Ball-Motor and balance functions

Support to Neck-Neck holding

Support to Back-sitting

Stimulation to hands and Legs-Activities of legs and upper limb including dexterous hand functions

Peer Interaction & Play- Social and cognitive functions

How the child develops purposeful movements-

The child learns to move a muscle

Then learns a movement

Learns a skillful purposeful movement

Then learns a complex activity

Enjoys the New Activity

Interacts with Environment

Repeated movements are needed to develop this—ENGRAM (Program in brain)

Small Engram is then integrated into larger and larger Engram—to complex purposeful activity.

Cortical level Engram is transferred to sub-cortical level and works automatically.

Older but Purposeful Activities become automatic.

New Learning Process Continues….

Now unleash your Knowledge and Energy—and--DEVELOP YOURSELF for development of the child

Early Intervention in Developmental Disorders

Dr Ritu Majumdar
Professor & Head, Dept. of Physical Medicine & Rehabilitation
Lady Hardinge Medical college & Associated Hospitals, New Delhi

Early Intervention includes specialised support &services for Children with developmental risk/ disabilities below the level of compulsory education, 0 to 3 years and their families to promote development, well-being, lessen the effects of the condition & community participation

These services focus on children's need in various developmental areas of Gross & fine motor, cognitive, communication, social or emotional development, sensory and adaptive development.

"A critical period" is a phase in which a child has increased sensitivity to external stimuli that are required for the development of a particular skill. During the first 2 years of life brain connections are being made and the brain is at a period of maximum growth and plasticity.

There is evidence that early identification and intervention improves outcomes both for the child and for the family & potentially reduce the risk of secondary health and psychosocial complications

Intervention is more likely to be successful when it focuses as much on supporting and training parents as it does on directly working with the child

The Rights to Persons with disabilities act 2018 has made provisions for Early Identification and intervention for these infants and young children.

Early intervention can beremedial forexisting developmental delay or in preventing the occurrence of developmental disorders.

According to World Health Organization, 5% of children under 14 have moderate to severe disability. In India, 1.5-2.5% of children under 2 years have some form of developmental delay

The Purpose is of early intervention is Prevention of disability:

- Primary: to prevent occurrence or development of disease
- Secondary: to reduce the impact & magnitude of disability
- Tertiary: Intervening early with the aim of improving outcomes by prevention of complications/ functional impairments

Goal of early intervention:To enhance normal development & independence

Phases of early intervention

- Identification: 1st sign/ signal of developmental delay
- Diagnosis: Finding dev. disorder & cause
- Training: All goal directed activities
- Guidance: Parents/ Care givers
- After comprehensive history and physical examination, it is important to screen the child for Developmental delay, Global delay, Speech/ Language disorder or Autism spectrum disorder in order to start timely intervention & referral to other specialties is a must for holistic intervention
- Effective early intervention can begin before formal diagnosis, purely on the basis of the child's functional abilities and support needs.It should be tailored to individual needs. Do not wait for establishing a diagnosis, which will unnecessarily delay intervention

Training & guidance includes:

- Developmental training activities which can be imparted Individually or in groups
- Involvement of Medical /paramedical/ dietician/ Nurse
- Developmental enriching program or teaching a particular skill to the child
- Cognitive-behaviour training/ play therapy
- Parental counselling/ learning of skills by parents
- Improvement of housing conditions/ need of adaptive equipment /special needs
- Need for Social work/ home care

When seeing a child with developmental delay in PMR OPD, following points should be taken care of:

- Ask complaint from both parents (preferably mother), in Indian scenario, grandmother is also aware of child's developmental history

- Talk in local & simple language
- Build confidence
- Examine the child, (remember disability etiquettes):
- Ask name/ talk/ hold hand/ smile
- Explain about child's condition/ diagnosis to the parent
- Orient about early intervention & its importance
- Need to educate parents about child's disability & how to take care of them
- Reassessment & regular follow up
- Always check after therapist evaluation/ therapy, do not just send the child after evaluation for early intervention to therapist & forget
- Early intervention services should be part of dept. of Rehabilitation: Those Physiatrists who are interested in Paediatric rehabilitation can have a separate room for Early intervention services & equip it accordingly.
- Interact with other specialities: Paediatrics/ Neonatology/Ophtho. /ENT/ Psychiatry. Trans disciplinary set up can be made with Physiatrist taking charge of the early intervention services.
- Take full charge of the child you are managing in your set up (OPD/Ward/ Referrals)
- Interact with therapists, they should understand that Rehabilitation physician has evaluated the child thoroughly & is interested in child's developmental outcome.
- Build confidence in Parent/ caregivers: once you have gained confidence of parent's they will visit your dept regularly & you'll be able to see the child grow, prevent deformities & improve quality of life.

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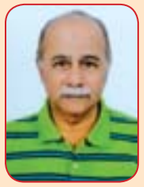
Disability to Ability in Children with Cerebral Palsy - Physatirst's Contribution

Dr M. Feroz Khan
Consultant Physiatrist, Chennai



Cerebral Palsy (CP) is nonprogressive disorder of movement and posture in a developing brain of a child. Posture is the ability to maintain the body against gravity so that necessary functional movements will take place. Cerebral cortex along with many areas of brain is responsible for the above functions. Cerebral cortex collects sensory input for the outside world and from inside the body and regulate the motor functions with continuous feedback. A lesion in brain can interfere with these functions resulting in mild affection to severely bed ridden stage.

Physiatrists have to play a major role in management of these children along with team members, parents and members of the society. Many times the parents cannot find or afford to go to a specialized CP clinic and such situations we should take the lead and train the child and caregivers.

To tackle the brain affection:

Teaching the family few tricks like regular tummy time, supine curl lying, tickling frequently will stimulate the flexor and extensor tone, stretching the major joints to increase proprioceptive input. Rocking the child in traditional cradle will stimulate the vestibular and vision to improve the posture balance. Simple different yoga postures will increase the sensory input and decrease any pain in the child and caregivers. Proper alignment of body structures in all planes will help the muscles to perform movements better. As the child grows more neurons and myelination of existing neural structures and synapses are formed. Encouraging pasive and active movements (including any type of mobility) teaching any new skill every day will help in the processes.

To tackle the secondary disabilities:

Tone changes and contractures canbe reduced by alignment and positioning. Regular simple stretching techniques, positioning, splinting (night splints can be applied for some duration one hour after the child sleeps for 2 hours and for one hour before the child wakes up will make the child to sleep well.

Fig 1 shows the child in supine lying with flexor hypertonia and fig 2 shows the just placing a pillow to get lumbar extension reducing the tone. Encouraging functional movements in the anti spastic position will improve better sensory input and movement control. Interventions will be useful with neurotoxins, surgical interventions to tackle contractures, get better alignment and improve the functional performance.

Postural and movement issues need motor control training (sitting and pressing both thighs together, lifting both knees together, lifting both ankles together); strength training needs sit and stand, bicycling, swimming or hydrotherapy. Co ordination can be improved standing on one leg alternatively for lower limbs and hanging on monkey bar or swinging with support for upper limbs. Teaching a new skill everyday will stimulate neuronal recruitment and repetition will improve synapse formations.

Fig 1.Child with Hyppertonia

Fig 2. Same child with getting lumbar spine extension showing decrease in tone and better alignment in lower limbs.

Role of the child in the society:

The child with cerebral palsy should be seen as child with difference in performance and not as a patient. Like any normal children their care should be routed through the same path of care, education, nutrition, and leisure activities and participation in social situations. Rehab team should be in position to influence this. So it is imperative for the physiatrists to have adequate knowledge and skill to play a vital role in the process as a leader.

Role of the child in society as student

Role of society in helping the child:

This is very important, for improving the facilities in home, hospitals, institutions and financial issues and insurance cover. Involving the society members to treatment facilities will help the child and their caregivers to boost their morale and come out of depressive approach. Including the normal siblings in the different events arranged for them (like free trips entertainment facilities free of cost) will make them realise a different child is an asset to the family and not a concern.

Role of society in inclusion

It ideal that a modern day physiatrist who gains lot of skills in different intervention techniques should know only few CP children needs these. But all of them need dedicated high quality of rehab care. They have to take proper training and interest in all the above mentioned steps in cerebral palsy care to be true leaders of Rehabilitation team. There are large numbers of Cerebral Palsy children in our country requiring basic midlevel and advanced rehabilitation care. Physiatrists should come forward to treat them and do research activities so that our speciality will be well recognised. And we can be an important taskforce to change the disability to ability in CP child.

I thank the team of "BULLETIN OF IAPMR " and editor Dr Saumen K. De for giving me the opportunity to write few of my thoughts on Cerebral Palsy management.

Cerebral Palsy and Rehabilitation: My Experiences

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(Author is the first doctor in India having cerebral palsy and has done post-graduation in Physical Medicine and Rehabilitation)

This year, world cerebral palsy day is being celebrated on 6th October. There are 17 million people across the world living with cerebral palsy (CP). Another 350 million people are closely connected to a child or adult with CP. With ever growing facilities all the efforts are put to save and resuscitate a new born child however it puts an increased chance of child

with different types of Cerebral Palsy.

"Cerebral palsy describes a group of permanent disorders of the development of movement and posture, causing activity limitation; those are attributed to non-progressive disturbances that occurred in the developing foetal or infant brain. The motor disorders of CP are often accompanied by disturbances of sensation, perception, cognition, communication, behavior, by epilepsy and by secondary musculoskeletal problems".

Cerebral Palsy my Experiences

I am diagnosed with cerebral palsy spastic diplegia. My experience with spasticity started the day I started walking for the first time, I walked on my toes. Initially I was taken as a habitual toe walker. Initial response was repeated reprimandation to walk with a normal gait. Multiple traditional approaches were tried like good diet, exercises, running and games. However my gait deteriorated with time. So at a later stage medical help was sought. Physicians from various specialties had various opinions for management of my condition. Orthopedician was eager to do surgery, the neurologist was against surgery and suggested for unknown jargon of physiotherapy (PT). Later the neurologist started medication for spasticity.

At school I loved both science and mathematics and I was one of the lucky few to gain admission to both engineering and medical schools. My overwhelming desire to learn about the workings of the human body and someday perhaps to manage my cerebral palsy, however made the choice an easy one for me. From my first day in medical school I began discovering the complex network of nerves controlling the limbs and from physiology I started gaining an understanding of the mechanisms underlying my disease. I remember how excited I was when I dissected the skull to see the brain and the cranial nerves; I even missed my theory class because I was so taken with the dissection.

By the time I finished my medical graduation I had learnt a lot about my condition. In 2003 Botulinum toxin injection was also injected in my Gastrosoleus muscles with no effective results. During this visit one neurologist also suggested me for Baclofen Pump, but due to cost and invasiveness of procedure I did not go for this management. Later I started to have hip pain and one of the neurologist suggested me to go for Selective Dorsal Rhizotomy. This idea of fiddling with nerves was not too exciting and was discarded by me. In 2005 I was convinced by an orthopedician for bilateral Gastro soleus release. However its beneficial effect started to wean off in a year.

My profession as a Physiatrist and my disability.

During clinical rotation our neurology professor brought us together, with a gleam of admiration in his eyes he told us, "Men...Find a job you love, and you will never work a day in your life." Those words didn't mean anything to me until I became a Physical Medicine and Rehabilitation (PMR) resident. That is when I realized that I had found something that I was truly passionate about. I have taken this passion for PMR and established a vision of where I want to be and what I want to do within the profession. I have three major objectives that I want to pursue as a Physiatrist. First, I want to take my clinical skills and advance them beyond my present level. Secondly, I want to advance my ability to critique and develop research as a clinician. Finally, I want to work at advancing the profession of PMR and hope that I can give back even a fraction of what this profession has given me.

Rehabilitation medicine is an open field for research with a lot still to be done. When I read about stem cell transplant, advanced prosthetics and robotics I get goose bumps and the feeling I am left with is that there is still hope and I could perhaps make a difference. I would always imagine the possibility of synthesizing an artificial brain like an organ programmed to perform all basic motor activities while at the same time responding dynamically to the needs of the body.

My patent to stretch my spastic muscles

When I used to do stretching, I would often think some long lever would ease out the effort needed for stretching. "Give me a place to stand, and I shall move the Earth with it" were words of Archimedes about levers. Lever is one of the six simple machines identified by Renaissance scientists. I said if Archimedes could move earth why can't I stretch my GS and TA with a lever. During orthotics checkout an idea popped and I enquired with our orthotist if we could add a lever and a hinge to an Ankle Foot Orthosis (AFO) so that something could be made to stretch the TA. However, at that time this novel idea did not consolidate. After completion of residency this idea had never extinguished and I talked about this idea with my brother who is an orthopedician and has an understanding of biomechanics. He took my suggestion seriously and we decided to materialize it into a new instrument. It was time for a bit of cooking. The recipe was simple: a splashing of orthosis, a good

knowledge of exercises, and dose of physics and a pinch of imagination. I made a design on paper and we called our ironsmith who had worked in our home, it was difficult to make him understand what he had to make and what its utility was. After a lot of motivation, he agreed to make it but at the cost that would be his discretion. I sat with him, and we were selecting and discarding materials of different thickness and tensile strength; we had to use different thickness materials of foot plate, shank and lever. Foot plate needed to be sturdy to bear the pulling force of the lever without bending, lever that was to be welded with the footplate that would not bend or break while pulling. Shank was a little thinner to allow bending around the calf. Earlier I thought of fixing the shoes to the foot plate by some detachable buttons or permanently fixing the shoes. However, I could not get the required material and for that I needed two instruments for two sides. Then a new idea came to attach a foot strap with Velcro for different sized footwear. After finalizing the design, on trial I found that pulling my shoe would go up in the shank without stretching the TA; to prevent upward gliding of the shoe I put a counter heel counter that locks the shoes down on the footplate without unnecessary upward drift. A final design was made, padding was done and now the instrument was ready to be used.

My rendezvous at the court

World does not see the interest of a person and is sometimes very cruel. After completing my PMR Residency and Senior residency I was denied to be given the post of faculty despite having all the credentials so I had to take up to the court to get my right. In court the justice saw my disability and sarcastically asked what I have done to ameliorate my disability; to which I replied "if I had not done my rehabilitation, I would not be a doctor standing in front of you fighting for my rights". That day the whole court saw that rehabilitation is not just physical but it is the integration of a person with all the remaining functions utilized to the fullest of the accomplishments.

Today I am working as an assistant professor in one of the apex institutes of my state and providing rehabilitation services to people of my state. I know I will be challenged at every step in my life but I remember a line of my school song "up the hill of life I go newer fearing ever daring up the hill of life I go". My Daily Life Routine. My day starts early in the morning with morning prayers when I thank my god for giving me a good life and a chance to live a life of the elite. I have a very diet and weight conscious breakfast along with a tablet of baclofen. I have a brief session of stretching of gastrosoleus muscles and hip adductors, then I drive my car to my workplace. I usually reach 2 hours earlier than the rest of my staff; I change in my office and go to the physiotherapy section and walk for 1 to 1.5 km on the treadmill. Then I strengthen my quadriceps and trunk muscles on the state of art DAVID Stations, followed by strengthening of hip abductors and extensors with weighted cuffs. Then I stretch my gastrosoleus muscles with my device, I freshen up till all the employees reach the department. During lunch I take another pill of baclofen. After my hectic day at the hospital I stretch my muscles again before I leave for my home. Every night before going to bed I get my hip flexors stretched passively.

Your disability is not a disability…it is your ability with different mind-set… Nothing is impossible in this world!

Pain and Disability

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Pain is currently defined as an unpleasant sensory and emotional response to a stimulus associated with actual or potential tissue damage or described in terms of such damage. However, pain has never been shown to be a simple function of the amount of physical injury; it is extensively influenced by anxiety, depression, expectation, and other psychological and physiological variables. It is a multifaceted experience and the physical characteristics of the stimulus depends on the the individual's motivational, affective, and cognitive functions.

Acute pain is a biologic symptom of an apparent nociceptive stimulus, such as tissue damage that is due to disease or trauma .It persists only as long as the tissue pathology itself persists.

Chronic pain is a disease process in which the pain is a persistent symptom of an autonomous disorder with neurologic, psychological, and physiologic components. Differing significantly from acute pain, it is defined as pain lasting longer than 3 months within the context of the usual course of an acute disease or injury. The pain may be associated with continued pathology or may persist after recovery from a disease or injury.

As with acute pain, treatment of the Patient with Chronic Pain that is due to organic disease is managed by effectively treating the underlying disorder; however, no such identifiable organic disease may be evident. Chronic pain can mimic the qualities of acute pain except that associated signs of autonomic nervous system response may be absent, and the patient may appear exhausted, listless, depressed, and withdrawn. Chronic pain can have exacerbations that are triggered by progression of organic pathology, physiologic stress, or worsening emotional, social, and psychiatric problems. As these problems subside, the pain may improve. Chronic pain may also be highly persistent and reported as severe for years without remission. Proper management of pain requires an understanding of its complexity and knowledge of the nonneurologic factors that determine its individual expression.

The treatment of patients with pain is a major focus of many outpatient physiatric practices and is becoming even more important since the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) mandated pain as the fifth vital sign.

Adequate pain control can minimize disability, maximize function, improve quality of life, and potentially improve long-term outcomes by preventing the development of chronic pain syndromes. With the increased scientific understanding of the limits of the Pain Oriented approach more complex rehabilitation approaches focusing on increasing function, on recovering activities and participation, and on rising quality of life have emerged and developed. we can call them functioning orientated approaches These Functioning Oriented approaches are based on WHO's understanding of functioning representing the comprehensive view taken by PMR . In most patients this is far more appropriate, and it should be the main concern of PMR specialists, who have the best conceptual tools with which to appropriately rehabilitate chronic pain patients. But we must not ignore Pain Oriented treatments, which in some or many cases must be applied.

Physiatrisats are involved in medical evaluation and treatment of physical impairments and associated disabilities . The physiatric emphasis toward evaluating and managing the disabling aspects of illness and injury sets us apart from more traditional medical fields, whose scope and focus rest primarily on the diagnosis and treatment of pathology and medical impairment.

Disability assessment of patients with chronic pain is a challenging task and if it is associated with workman compensation the issue becomes more complicated. These laws have dramatically influenced the recovery from injury. In many instances, they have become counterproductive; financial compensation may discourage return to work, the appeal process may increase disability, an open claim may inhibit return to work, and recovering patients may be unable to return to work. Often, the accident and resulting symptoms represent the patient's solution to life's problems . The pain literature suggests an enhanced pain experience and reduced treatment efficacy in patients with chronic pain who are receiving financial compensation. Litigation Disability, along with pain and suffering, greatly determines the amount of compensation awarded in worker's compensation cases. The patient pain behavior may be reinforced, maximized, and groomed with the hope of a large cash settlement. As a result of this reinforcement, the pain behavior develops into a learned response. The pain also becomes the disability for which the patient is seeking compensation. Therefore, a learned behavior becomes a determining factor in the amount of compensation awarded. Alteration of the disability laws could decrease the number of acute pain patients who develop the behavioral disease of chronic pain syndrome. Changes that might discourage the development of chronic pain include allowing an injured worker to continue working at a job he or she is physically able to accomplish during the recuperation period, rapid adjudication of disability and compensation claims, and physicians restricting the patient's use of addicting and depressant medication to less than 1 month.

The difficult questions concerning terminating treatment, rating impairment, and determining work disability must be handled with finesse and dexterity and, above all, with the fairness, objectivity, and consistency that a functionally oriented focus can provide.

Pros and Cons of Orthosis and Prosthesis in Geriatric Disability

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Aging with a disability is an exigent process. Victims of calamitous events are surviving to live with disabilities with improvements in emergency care. Older adults are confronting their later years with disabling sequelae of disease or trauma due to increasing life expectancy[1]. Accompanying this rise in persons coping with disabilities, the number, technical complexity, and availability of orthoses and prostheses for various indications has simultaneously increased. The ability to cope and compensation can change with age. Changes that occur over the course of time in health, or psychosocially can have a negative impact on ambulation, self-care, and pain.

Falls are common in the elderly and a major cause of morbidity. Falls cause the majority of the fractures of the forearm, hip, and pelvis. Also, cognitive impairment, dementia and high-risk medications for falls including antidepressants, antipsychotics,

antiepileptic, benzodiazepines, opioids, sedatives and muscle relaxants, antihistamines, and anticholinergics are risk factors for fall.

Age-related changes in gait are associated with falling. Chronic back, hip, knee, and foot, which also affect gait, can increase fall risk. A single-point or quad cane in hand opposite the painful extremity can be used to take some weight off a painful hip and provide additional stability for balance problems. Crutches increase demands on balance and energy in the elderly. A platform walker can be used if hand or wrist function limits grip on a stan¬dard style. Wheelchairs can allow for distance mobility in the community.

Changes in footwear can improve stability during ambulation. Lower heels spread weight over more of the foot and thus change the work of the quadriceps. High-topped shoes that extend above the ankles give more sensory feedback to foot position. In Charcot's deformity due to diabetes, inserts and custom-designed insoles prevent callus formation and ulceration. Appropriate footwear and inserts can reduce joint and back pain and reduce ensuing injuries.

Ankle-foot orthoses (AFOs) are frequently given for patients with foot drop due to stroke[2]. AFOs are made from thin, molded plastic material and fastened with Velcro straps, these are well tolerated and allow safe ambulation while hiding easily inside standard footwear and clothing. Knee orthoses (KOs) provide support as well as alignment, these may be adjustable to allow increasing or decreasing amounts of movement in particular directions. These include patellar tracking orthoses, Off loader/ Unloader orthoses which are used in chronic, mild-to-moderate varus or valgus deformity and ligamentous instability with pain. But the compliance is poor among patients.

Specialized, custom-molded static upper-extremity orthoses are applied frequently in elderly patients with upper-extremity neurologic disease, such as stroke, to prevent the development of contracture due to unopposed muscle action and spasticity. Use of an arm sling, following a stroke, improves gait in hemiparesis.

Back braces (LSO,TLSO) are applied for various causes of low back pain and for support of instability due to traumatic, non traumatic, and surgical reasons. There is only temporary relief in pain. Long term use may lead to disuse muscle weakness which can cause functional instability and worsen pain. Orthotics that cause excessive hyperextension forces on the spine may cause posterior element type fractures in the osteoporotic patients. Supportive devices for the cervical spine are employed primarily after surgery or trauma. Although immobilization and support may offer some pain relief, recovery time is delayed due to disuse weakness of the cervical musculature. Careful attention to all pressure points (especially occipital) for skin breakdown is important with these cervical supports.

Most lower-extremity amputations in a geriatric population are associated with vascular disease. Trauma and tumor are less common cause for amputation[3]. Diabetics are at significant risk for lower-extremity amputation. Upper-extremity amputations are significantly less common. Life expectancy in older adults after amputation is shorter. Prognosis for successful prosthetic rehabilitation is influenced by the number and types of comorbidities. Cardiovascular diseases, cognitive impairment, dementia and comorbid respiratory disease, which may adversely affect prosthetic gait retraining due to increased energy demand. Patients with end-stage renal failure may experience frequent changes in limb volume that complicate prosthetic fit[4]. Postoperatively, early mobilization is crucial to avoid the deleterious effects of immobility in the older person Regardless of the lack of improvement in survival due to the systemic vascular disease, the older patients can benefit from rehabilitation endeavor to prosthetic ambulation or simply cosmesis. Resolving psychosocial issues can also help geriatric patients in proper prosthetic rehabilitation.

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Rehabilitation Robotics: From Disability to Ability

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Disability is defined by World Health Organization (WHO) as 'Any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being'. 'Rehabilitation' means 'To make able again'. The ultimate goal of the Rehabilitation physicians is to make disabled people able again. 'Rehabilitation Robotics' is the most advanced tool in their hands, where neuroplasticity plays the pivotal role, harnessing the principals of rehabilitation and technology. Plasticity refers to the ability of the neural tissue to modify its structure or function and these changes outlast the stimulation period (Butler & Wolf, Physical Therapy 2007). Robotic devices provide high-intensity, task-oriented training with performance feedback. All these stimulate the adaptive plasticity of brain and facilitate motor relearning. If applied early in the course of the disease, robotic therapy can prevent the occurrence of disability. It can also slow down the progression of the disability or reverse the residual neuro-muscular deficits.

Rehabilitation Robotics is a field dedicated to understanding and augmenting rehabilitation through the application of robotic devices. Development of Rehabilitation Robotics started in early 1990s, and over the last few decades it has become a reliable treatment modality in various neurological and musculoskeletal disorders, like- Stroke, Multiple sclerosis, Cerebral palsy, Parkinson's disease, Spinal Muscular atrophy (SMA), Traumatic and non-traumatic spinal cord injury, Traumatic brain injuries, Follow up after brain tumor surgery, Degenerative joint diseases of the lower limbs (e.g. osteoarthritis of the knee), Follow up care after endoprosthesis implantation, Muscle weakness due to immobility etc. It is contraindicated in certain conditions, for example- in severe postural instability, severe visual problems, need for long-term infusion therapy, bone or cartilage dysplasia, severe vascular disorders of the lower limbs, hip, knee, ankle arthrodesis, patients requiring isolation due to infectious diseases, uncooperative or aggressive patients.

There are various advantages of robotic therapy over conventional therapy, such as they are able to deliver constant, precise, well defined repetitive functional exercises and they also give performance feedback. It is engaging & entertaining for the patient, which helps to improve the cognitive ability and also reduces the discomfort of conventional therapy. Robots can progressively increase task demand & complexity as the patient recovers, which always keeps the therapy challenging for the patient. It supports and enhances the clinician's task of facilitating recovery, delivering therapy and evaluating patient's progress. It can also enable Telerehabilitation, which is the need of the hour during the current pandemic situation.

We have many Robotic systems for both upper limb & lower limb rehabilitation. Many of them are commercially available; some are still in research settings. Only a few are available in India. The upper limb robotic devices are- MIT Manus, Mirror Image Motion Enabler (MIME), BiManu Track, NeRebot, Gentle (Haptic Master), Arm Guide, Armin & Armeo. For improvement of finer hand function, some devices are under development, like- HEXORR and HAND-SOME. We also have upper limb Robotic Prosthesis, like- Bionic hand and Luke Arm. Some lower limb robotic devices are- Lokomat, Gait Trainer 1, Zero-G, G-EO (Haptic Walker) etc. The advantages of robotic gait training are- gait pattern and guidance force are individually adjustable to the patient's needs to optimize the functional training. Patient can achieve a faster progress through longer and more intensive, programmable functional training sessions compared to manual treadmill training. Motivation of the patient can be enhanced through visualized performance feedback. Inbuilt assessment tools allow easy and reproducible measurements of the patient's progress. Physical strain on therapists is relieved to some extent. Some other Robotic Exoskeletons are also useful for gait rehabilitation, locomotion assistance and human strength augmentation, like - MIT's Anklebot, E-legs, Rex, Indego, Ekso, ReWalk and so on. They help to achieve therapeutic standing, improve gait and prevent falls that are common menace to patients with impaired mobility. Hybrid

Assistive Limb (HAL) is a Powered exoskeleton suit that is being designed to assist the disabled and elderly in their daily tasks, may also be used to support workers with physically demanding jobs such as disaster rescue or construction.

Numerous studies have demonstrated the efficacy & advantages of rehabilitation robots for treating motor impairment in both upper limb & lower limb, but literature is scarce from India. The study done by the author on "Effects of Robot Assisted Therapy as an adjunct to Conventional Therapy in Upper Limb Motor Recovery after stroke", published in 2016 is one among them which showed Robot-assisted therapy is a safe and effective way to improve upper extremity function in stroke patients than conventional therapy alone.

Robotics can revolutionize Rehabilitation medicine management of Neurological and musculo-skeletal disorders, but awareness is lacking among general and disabled people and also among health professionals. Availability of Robotic systems in India is also a big issue, as till now the facilities are restricted to high-end rehabilitation centers due to its enormous cost of procuring, installation & maintenance from foreign companies. The only solution to this problem can be indigenous Rehabilitation Robots. We should move forward with our Prime Minister's 'Make in India' drive to improve the Rehabilitation Robotic scenario in India and bridge the gap between the need of the Persons with Disability & the availability of Robotic devices at lower cost. Hopefully we will succeed in near future.

Disability and Rehabilitation Surgery

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The National Statistical Office (NSO), Ministry of Statistics and Programme Implementation, conducted a Survey of Persons with Disabilities during July 2018 to December 2018 as a part of 76th round of National Sample Survey (NSS). The survey was spread across the country. According to the survey, disabled population of India is 2.2% of its total population and out of that 1.4 % has locomotor disabilities. Among the locomotor disabled, there are persons whose functional potential can be improved by rehabilitation management. Improvement in locomotor functions and cosmesis as a result of rehabilitation management makes a person better not only physically but also psychologically. The improvementhelps the person in getting equal opportunities in society. To improve the functional potential of a person with locomotor disability early rehabilitation management is usually non-surgical. In this, along with medical personnel,allied rehabilitation manpower plays a significant role in delivering the services. In some cases, it appears that the management is mostly done by the allied rehabilitation personnel and the role of physiatrists seems minor. With the progress of time, if there is no significant improvement, surgical procedures may be the option to unveil the hidden functional potential. As in cases of tetraplegia following spinal cord injury, surgical rehabilitation of upper extremity is a powerful tool to get additional functions like ability to lift items, feed himself and to do other ADL etc. after the recovery has stopped.Reconstruction of elbow extension improves reaching capabilities and stabilizes the elbow, allowing for further reconstruction of grasping. Restoration of hand functions can eliminate the need for adaptive equipment, allow patients to regain meaningful roles and productive work, markedly improve autonomy and spontaneity and thus enhance self-esteem for persons with tetraplegia. According to a review article "Functional Hand Surgery Following Tetraplegia" by Robert L. Waterset and associates published in Arch Phys Med Rehabil Vol 77, January 1996, in tetraplegic spinal cord injury patients it is recommended that the tendon transfer surgeries should be performed 1 year after the spinal injury only when the patient's condition has not shown any neurological improvement for last 6 months. For this it is required to do 3 monthly assessments to determine when neurological recovery has plateaued. Vanden Berghe and associates state that if recovery has plateaued, surgery can be considered 6 months after injury. Ditunno and associates reported that recovery in some muscles in tetraplegia can occurup to 24 months after injury whereas Waters and colleagues demonstrated that the majority of recovery occurs within 9 months after injury. But whenever the surgery is done it is likely to make the functional capacity better.

In early phase of development of Physical Medicine and Rehabilitation in India, the major surgical workload used tobe cases of post polio residual paralysis (PPRP). As a result of eradication of Polio from India, the number of patients of PPRP has gone down significantly. Many of the surgeries that were required to correct the deformities of limbs in cases of PPRP are not required that frequently in surgical rehabilitation of patients disabled due to other diseases. There is a shift noted in the surgical procedures being performed by physiatrists frequently. The surgeries required for rehabilitation of patients of cerebral palsy, spinal cord injury, stroke, congenital anomalies, revision amputations, post traumatic cases and diabetic foot form the major surgical workload of rehabilitation surgeons in India these days.

The speciality of Physical Medicine and Rehabilitation is a surgical speciality in India. This has helped thousands of patients by providing comprehensive rehabilitation management in departments of PMR helping in reducing the time required for rehabilitation, minimizing complications and early treatment of complications. Many centres like CMC, Vellore; AIIPMR, Mumbai; Rehabilitation Research Centre, SMS Medical College and Hospital, Jaipur; Govt. Medical College, Thiruvananthapuram; Govt. Medical College, Kozhikode, National Institute for Locomotor Disabilities (NILD), Kolkata; SVNIRTAR, Cuttack; RIMS, Imphal; KGMU Lucknow; Patna Medical College, Patna; etc. have been doing good surgical rehabilitation work for years. There are many other centres like AIIMS, Patna; AIIMS, Bhubaneshwar; AIIMS, Bhopal; Amrita Institute of Medical Sciences, Kochi; Aster Medicity, Kochi etc. that are developing in good surgical rehabilitation centres. Some of the rehabilitation centres are focusing on surgical rehabilitation for lower extremity problems mainly. There is a need to widen the range of surgeries including surgeries of pressure sores and upper extremity surgeries to provide comprehensive rehabilitation to the needy patients. Post-graduate students in the speciality of Physical Medicine and Rehabilitation need to be given wider exposure in area of rehabilitation surgery so that they can easily identify patients requiring rehabilitation surgery at the earliest and if the surgery is not being done at their centre the patient may be referred to a suitable centre. This will help patients in getting the part of the management that is required for a better rehabilitation outcome. Along with this senior faculty may work towards introducing newer rehabilitation surgery procedures in their centres.

Focus on rehabilitation surgery does not mean that non- surgical management should not be paid adequate attention. It is the early non-surgical management that makes the prognosis better, prevents the complications and may even improve the condition to the extent that no surgical procedure is needed. Even if surgery is decided the non-surgical management helps in preparing the patient for a better outcome post-operatively.

According to the NSS Report No. 583, out of the total 1.4 percent locomotor disabled population of India, 11% PWD who when advised appliance could not get the same because of various reasons. Only 28.3% of the disabled persons having disability for more than a year use the aids and appliances. Among all those who require aids and appliances there are many if operated may not need any appliance. Wherever joint instability is a problem, artificial aids and appliances are used to provide the support needed. Some of these patients, if assessed properly and operated for providing joint stability, may not require an orthosis forever. Surgery for revision of stumps, done for treatment of complication or for better prosthetic fitment, makes the patient's life easier. Timely surgical interventions in cerebral palsy cases can significantly change a CP child's development. Management of spasticity by neurosurgical procedures and implantation of devices like Baclofen pump in many spastic cases help in preventing complications and make patient's life better. So for a comprehensive rehabilitation, where conservative management fails or to reduce rehabilitation time, rehabilitation surgeries have proved their usefulness. A rehabilitation surgery like pressure sore or neuropathic ulcer surgery or a diabetic foot surgery may even turn out to be a lib saver or life saver for a patient. What is needed is to develop more centres to provide the facilities, to start doing more surgeries in the centres where the facilities already exist and encourage rehabilitation professionals to refer more patients to utilize the services.

Future of rehabilitation surgery in India is bright. It is need of the hour to highlight the importance of surgery in rehabilitation management of persons with locomotor problems. There is a huge number of patients of cerebral palsy, spinal cord injury, brachial plexus injuries, diabetic foot, congenital anomalies and those requiring amputation surgeries for proper fitment of prosthesis etc. waiting for surgical rehabilitation to do better in their life.

Disability Etiquette

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Disability etiquette is considered to be a set of guidelines covering how to approach, and speak with a person with a disability. It also refers to educating people regarding disabilities, as sometimes the biggest challenge for person with disability is the so called 'normal' people.

General perceptions by the public about persons with disability are as follows:

a. Look different
b. Act abnormally
c. Talk abnormally
d. Untidy/Smelly/Dirty
e. Believed to be curse of God
f. Unlucky to come across them
g. Untouchable
h. Poor
i. Dependent
j. Beggars
k. Emotional blackmailer
l. Burden to the family and society

These general societal concepts influence our understanding and directly affect our etiquette towards the person with disability. Disability etiquette is not meant only for the health care givers but also for the population in general. In the existing Competency Based Medical Education, Disability Etiquette is incorporated starting from the foundation course itself.

ABCD of disability etiquette

A Appropriate Attitude (treat human as human, not as someone unwanted)
B Behavior that is ethical and professionally acceptable
C Communication - Effective communication
D Diversity -Respect for diversity
E Empathy

Some of the important disability etiquettes are enumerated as under:

1. Always respect the person's dignity, individuality and desire for independence.
2. Refer to adults with a disability in the same way you would refer to any other adult.
3. Never assume you know what assistance, if any, a person with a disability requires.
4. Treat a person with a disability in the same manner and with the same respect and courtesy as you would do to anyone else.
5. Avoid outdated terms like 'handicapped', 'crippled', 'retarded'. Many people with disabilities dislike euphemistic terms like 'physically challenged', 'specially able' and 'differently abled'.
6. Put the person first. Say 'person with a disability' rather than 'disabled person' and 'person with paraplegia' not 'paraplegic'. Say ' person who uses a wheelchair' rather than "confined to a wheelchair' or wheelchair bound'.
7. Avoid negative disempowering words, like 'victim' or 'sufferer'. Say 'person with polio' instead of 'polio victim' or 'polio sufferer'.
8. It is acceptable to call a visually impaired person 'blind' or a hearing impaired person 'deaf'. Otherwise, 'person with visual impairment' and 'person with speech and language impairments' are preferred terms.
9. Just because someone has a disability, don't assume they need help. Always ask.
10. Do not make assumptions about the existence or absence of disabilities. Not all attributes are visible.
11. Never tease or laugh at a person with disability because they look different.
12. Try to put yourself at the eye-level while talking.
13. Speak directly to the person, not to the attendant.
14. Do not dehumanize any person with disability.

15. If invited, rearrange the furniture or objects to accommodate a wheelchair before the person arrives.
16. Unless it is a new surrounding, a person with blindness would generally have learned to manoeuvre in their everyday situations quite independently.
17. Always identify yourself when you come in contact with a person who is blind.
18. Never take the blind person's arm to lead them, allow them to take your arm. You can guide the person's hand to a banister or back of a chair if needed.
19. Never touch the person's cane or guide dog.
20. While offering assistance, always ask directly to the person what it is that you need to do.
21. Guide rather than force (push or pull) the person. Allow the person to take your arm.
22. If you leave a person that is blind, inform them and ask if they need anything before you leave.
23. When serving a person who is blind on a dining table, give clock directions.
24. To a person who is deaf, try to use the person's preferred form of communication (signs, voice, writing).
25. Before speaking to a person who is deaf, make sure to get their attention.
26. When using an interpreter, look at the person who is deaf.
27. Do not pretend to understand if you do not.
28. Do not shout or speak loudly to a deaf person.
29. To a person with hearing and speech impairment, pay attention, be patient and wait for the person to complete his/her words. "Do not finish it for the person".
30. Ask the person to repeat what is said. Do not pretend that you have understood.
31. In case of severe speech difficulties, consider asking question that requires a short answer or a nod or shake of the head.
32. Do not obscure your face while communicating with those who are hearing impaired as most people lip-read.
33. To a person with cerebral palsy, do not pre-judge their abilities based on speech, mobility, or first impressions because they often have slurred speech and uncontrollable muscle movements.
34. If you are talking to them, calmly wait for them to finish and continue the conversation.
35. People with disability often feel stigmatized, try to be open and treat them as you would treat anyone else.
36. To a person with learning disabilities, ask the person how they learn best or how they would prefer material presented to them; written or orally.
37. Be prepared to give oral instructions or explain written instructions when needed.
38. Be direct and precise with your communication.
39. Realize that extra time may be needed for written assignments.
40. To a person with intellectual disability, do not make assumptions about what the person can or cannot do.
41. Do not treat them like a child. Be polite and patient.
42. Talk to the person even though they may not be verbal enough to respond.
43. Speak in normal tone of voice using simple words and short sentences.
44. Give one piece of information at one time, repeat if needed.
45. When the person has initiated or accomplished a task, give appropriate and generous compliments.
46. A person with TBI may also have issues with impulse control. The person may make abrupt comments that are offensive and not they may not realize they have offended someone.
47. They often get frustrating at not being able to fully get their point across and as a result appear demanding and pushy.
48. Likely to have short term memory problems.
49. In any crisis situation, stay calm, and send for help from the campus police or the Supportive Service Co-ordinator.
50. Respect the privacy of a person with a disability. Allow him/her to discuss his/her situation if and when he/she feels comfortable doing so.
51. Do not use baby talk to people who have developmental disabilities.
52. Do not make decisions for person with disabilities. They should be empowered to take their own decision.
53. Don't discourage children from asking questions about disabilities. Most people are not offended by questions children ask them about their disabilities or wheelchairs.
54. Many disabilities are hidden. Respect diversity.
55. Respect human values.

Most important point that we should introspect is **"our inability to explore innate potentials (ability/skill) of the persons with disabilities timely and facilitate these positive skills to make them independent"**. Otherwise, we are all responsible for making them dependent permanently in majority of the persons with disabilities.

Artificial Intelligence in Disability Certification

Dr Abhimanyu Vasudeva
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We inherited the judicial system from our colonial masters.Though we need to be thankful to them,we must be aligned to the present-day realities after seven decades of their departure. As rehabilitation physicians, our disability assessment is limited to determining the permanent physical impairment, while both in the daily life of the disabled person and the court of law, functional disability is important. It begs to question as to why a standardized protocol cannot be brought about in the discharge of the degree of functional disability with comprehensive guidelines.

The social model of disability is regularly dismissed while giving inability endorsements. This is regardless of the fact that it stays an incredibly telling model as it gives enormous perspicacity of the regular encounters of people with disabilities. Implications of disease are regularly not thought of, not to mention managed at standard with the immediate signs of the ailment.The International Classification of Functioning, Disability, and Health (ICF) unequivocally diagrams restrictions in limits that are required in regular day to day existence.

I prefer to avoid pitting the medical and the social models against each other as both have merits and demerits. Philosophers, among others, have come up with various other models to try and explain the concept of disability. There is no denying that no one model is adequate to explain this concept.

Doctors with expertise in that field can try, and "picture" what the person will find hard to do in a society based on the illness and its severity, but it remains an assumption at best. This assumption is likely to vary from one doctor to another.With advances in technology, we can take an accurate "architectural history" of the patient using telemedicine. It can be used to assess the daily chores of the patient and the environmental and personal factors.

Artificial Intelligence or Man-made brainpower (computer-based intelligence) alludes to the reproduction of human insight in machines that are customized to think like people and copy their activities. Given adequate information, AI can be utilized to recognize novel and conceivably valuable examples even in complex circumstances.

I believe that artificial intelligence will immensely help in certifying disability provided it is trained properly. I would like to cite an example of a meta-analysis here. Different studies are given different weights, and this is being done by AI at the moment using software. There are certain parameters that are coded based on which weights are provided to different studies.

ICF is one such tool that covers most activities that a person performs in daily life. Unfortunately, its potential is still not being completely unlocked. The same can be done to the various domains of ICF. The question now is, how do we decide on how relative importance is given to various factors? The answer to my knowledge at present is to lean back on evidence-based medicine guidelines to give importance or to be more specific a "weight" to various factors.

It brings me to another crucial point in that there should be more research using ICF to ensure that there is sufficient evidence out there for most of the daily chores and personal factors.

For the cynics, much like so many other numerous innovative advances recently thought to be in the region of sci-fi, the strength of chess-playing computer-based intelligence programming has gotten trite.

The more concussive instances of how man-made intelligence could influence our general public, at that point, dwell in its capacity to algorithmically retain and combine information and afterward produce the best next move—precisely as it does in chess, however on an unmistakably more noteworthy and far and wide scale.

The field of robotics is yet to catch up with AI. We're still a way away from approaching machines that can assess human beings with varying heights, weights, etcetera. This aspect will need special attention and focus.

The initial stages of this sea change will have to be the usual doctor's assessment alongside AI to quantify environmental and personal factors. As technology progresses, we should produce machines that assess the impairment, making it a completely objective process.

Compensations in courts depend on the degree of functional disability awarded and have consequences on the economic fallout of both the donor and the recipient party.Finally, we are well behind the more developed world as far as insurance is concerned. Here, I would like to cite an example of an Australian cricketer who went by the name of John Gleeson, who was a wrist spinner. He got his wrist insured for a hefty sum in the nineteen sixties because his wrist was the reason for a sizable part of his revenue stream. This example outlines the importance of impairment along with person-specific social contexts.

The drift towards the assessment of functional disability is likely to be successful if assisted by artificial intelligence.

Theme For IDPD 2020

Dr R.N.Haldar
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Building Back Better: toward a disability-inclusive, accessible and sustainable post COVID-19 World

The annual observance of the International Day of Disabled Persons was proclaimed in 1992, by the United Nations General Assembly resolution 47/3. The observance of the Day aims to promote an understanding of disability issues and mobilize support for the dignity, rights and well-being of persons with disabilities. It also seeks to increase awareness of gains to be derived from the integration of persons with disabilities in every aspect of political, social, economic and cultural life.

Disability inclusion is an essential condition to upholding human rights, sustainable development, and peace and security. It is also central to the promise of the 2030 Agenda for Sustainable Development to leave no one behind. The commitment to realizing the rights of persons with disabilities is not only a matter of justice; it is an investment in a common future.

The global crisis of COVID-19 is deepening pre-existing inequalities, exposing the extent of exclusion and highlighting that work on disability inclusion is imperative. People with disabilities—one billion people— are one of the most excluded groups in our society and are among the hardest hit in this crisis in terms of fatalities.

Even under normal circumstances, persons with disabilities are less likely to access health care, education, employment and to participate in the community. An integrated approach is required to ensure that persons with disabilities are not left behind.

Disability inclusion will result in a COVID19 response and recovery that better serves everyone, more fully suppressing the virus, as well as building back better. It will provide for more agile systems capable of responding to complex situations, reaching the furthest behind first.

UNESCO will mark the International Day of Persons with Disabilities with a week-long programme from 25 November to 3 December 2020. Disability Day has been created so that we can all think about how we can create a society that is inclusive and caters to everyone's needs. Did you know that 15 percent of the population across the world has some form of disability? This accounts for around one billion people! That's a very high figure. While we have taken some great strides forward in terms of accessibility and ensuring that disabled people can live as great a life as possible, there are still steps that need to be taken. On this day, we are encouraged to think about how we can create a community that is inclusive for everyone.

This day also gives us the perfect opportunity to further our knowledge and awareness about disabilities. There are many different types of disabilities, which can fall into 21 categories. This includes mental illness, intellectual disabilities, hearing impairments, blindness, and more. It is helpful to learn about these conditions so that we know how we can assist anyone who is living with a disability.

When we talk about creating a society that is inclusive, we don't only mean ensuring that disabled people are able to travel with ease and can go to any place they wish, but we also mean accessibility in terms of being able to have access to different jobs. There are lots of ways that we can all help and play a role in this.

Everything started in 1976, when the United Nations General Assembly made the decision that 1981 should be the International Year of Disabled Persons.

3 December is International Day of Persons with Disabilities (IDPD). On this Day WHO joins partners to celebrate "a day for all". This theme reflects a growing understanding that disability is part of the human condition. Almost everyone will be temporarily or permanently impaired at some point in life. Despite this, few countries have adequate mechanisms in place to respond fully to the needs of people with disabilities.

In 2020, the UN's theme was "Building Back Better: toward a disability-inclusive, accessible and sustainable post COVID-19 World". WHO supported this theme by underlining the importance of fostering an inclusive culture and responding to the urgent needs of people with disability in all aspects of society, especially during the COVID-19 pandemic.

The motto of observing such special days are to analyse the progress and the achievements made from previous year. But in this covid situation it became only just an observation. So it is very essential to access the influence of coif on them.

In May 2019 WHO advised for additional measure in home and special care home for differently abled as they are venerable to attack due to low immunity level.

Normal covid measures may not be possible for them. Mask may not be used in dyspnic and mentally unrest child. Sanitizer and hand wash rules may not be followed by them. Physical distance may not be maintained for dependent during ADL.

Their movements are restricted and increase of mental anxiety along with restless ness. Their deprived of covid information. Family and the incumbent also suffer more due to absence of care giver during lockdown.

WHO advised them to work from home. Take help from family and care giver, health workers, avoid outsider and crowd, online purchase, regular sanitization of wheelchairs, spectacles, hearing aids, sticks, crutch and other aids.

All country should circulate the covid information with facts, figures, sign, brail, etc. in regional languages. The family will get incentive like relief in IT, free treatment, no pay cut, work from home, financial help, etc.

Online classes, regular communications by administration, police, doctors and health workers, and neighbour to avoid depressions, excitement and behavioural changes.

Financial disparity between different countries is the main obstacle to implement this covid measurers. We are already late in understanding the measures for covid control and treatment protocol. We faced death of nearly 2 million people amongst 9 crores covid infected till date but we have no data about financial status of dead peoples and death of differently abled persons.

Study shows that number of covid infection is less in disabled chid group but death rate in adult are 3 times more than normal covid adult group.

Following differently abled persons are more prone to covid infection. Restricted or limited movement persons - infected by caregivers. Mentally disabled - unable to sanitize, wash and keep physical distance. Unable to express their difficulty - caregiver should be more cautious. Jobless, financial crunch create deep depressions. Blood sugar hypertension etc. rises due to lack of medical concern and investigation.

Both physical and mental health deteriorates. Covid infection can snatch their life also. So they need slightly more care and sympathy from society and country as well as from mankind.

Key Messages

- Disability is part of the human experience.
- WHO recognizes that a world where all people attain the highest possible standard of health and well-being is only possible if health systems are inclusive of people with disability.
- People with disability have been amongst the most vulnerable populations during the current COVID-19 outbreak due to many health, social and environmental barriers, discriminatory attitudes and inaccessible infrastructure.
- The COVID-19 pandemic provides a unique opportunity to build back better our health systems so that they are more inclusive and responsive to the needs and human rights of people experiencing disability in all their diversity.
- Countries need to shift towards a service delivery system rooted in the communities, reaching out and empowering people with disability.

Physical Fitness During Covid -19 Pandemic

Dr V K Sreekala

Former Principal, Govt Medical College, Ernakulam,

Former Professor& Head, Dept of Physical Medicine and Rehabilitation

Medical College, Thiruvananthapuram, Kerala

Covid 19 Pandemic has shaken up the daily routine of the whole world. People all over the world have had to drastically change their lifestyle.

Importance of Physical activity

Those who had been doing regular outdoor activities or going to a gym prior to the pandemic, had to stop it either due to lockdown or due to closure of gyms. But during a pandemic, exercise is all the more important because research shows that regular moderate intensity exercise (any exercise spending 300 to 450 calories per hour) has immune boosting benefits that may help your body fight off infections including Covid 19.

Key points

1. Physical activity can be an effective adjuvant treatment strategy for management of Depression and Anxiety.
2. Each day is a new opportunity to engage in Physical activity that can bring short and long term benefits for mood, sleep and physical& mental health.
3. Consistency and sustained motivation may be enhanced by peer support, family support or a trainer in a gym. Social distancing, self-quarantine and the closure of many gyms have made it harder to go out for exercise.

What exercise?

Exercise is one of the most powerful tools we have, to stay physically and mentally healthy.

Physical exercise increases the blood levels of Beta Endorphins, Nor epinephrine, Serotonin etc. The normal levels of these chemicals help us to maintain the euphoric mood.

With the challenges of working from home and limited access to fitness facilities we find it difficult to stick on to a workout routine. We miss the camaraderie of the gym, the relaxation of the swimming pool or the social relationships developed during our morning walk.

If you can afford a treadmill or a static cycle at home, you can continue walking orcycling for 30 minutes a day for 5 days a week. If that is not possible, gardening and cleaning activities (indoor & outdoor) give good exercise. Moping the floor, mowing the lawn, clearing the garbage around the house or similar yard work give good exercise.

Bring more movement into your day

Short bursts of movements (micro activities) count a lot.

1. Move around while you are on a phone call.
2. Do squats or lunges while waiting for an online meeting
3. Jogging in front of the TV during a commercial break is a good idea.
4. Counter top push ups or stretching while you are waiting for the kettle to boil or toast to pop up or chappathi (in my case it is Dosa) to get cooked.
5. Climb up and down the stair case whenever you get a chance. Don't wait for the lift wherever you go. This may help to reduce your chance to get affected with Covid as social distancing is not possible inside a crowded lift.
6. If you are young and fit, skipping is a very goodhigh intensity exercise (any exercise spending more than 450 calories per hour). It has the advantage that it doesn't need much space. Cost is very little. But make sure you do it on a carpeted surface and with a proper pair of shoes.

How much is enough?

150 minutes of moderate or 75 minutes of vigorous exercise every week is enough to maintain fitness. That is, 30 minutes a day for 5 days a week.

It is also good to break it up to two segments of 15 minutes each or three segments of 10 minutes each every day. Benefits are the same. Any time is exercise time; but it will be more beneficial to exercise on empty stomach to breakdown fat. If that is not possible, make it two hours after food. Take two glasses of plain water before and after exercise. Don't forget to include warm up and cool down as part of your work out sessions.

Hope we will all come out happy and healthy after the pandemic.

Acute COVID-19 Pulmonary Rehabilitation: Indian Perspective

Dr Harleen Uppal

Assistant Professor, Dr Baba Saheb Ambedkar Medical College & Hospital, Rohini, New Delhi

Pulmonary Rehabilitation (PR) is a customized and all inclusive rehabilitation treatment of patients suffering from chronic respiratory illnesses after detailed evaluation. (American Thoracic Society). With exercise training as its core, pulmonary rehabilitation comprises of comprehensive interventions, including psychological and nutritional support, as well as exercise therapy.

Mildly symptomatic and Asymptomatic Disease:

- This is recognized when the patient has mild symptoms with no changes in the chest radiograph.[1] Patients in this category can be rehabilitated using tele-rehabilitation model. In case one to one supervisionis required, it has to be conducted in complete personal protective equipment.

In mild disease, the following principles can be followed:[2]

1. It is required to consider the following before making the tailor-made rehabilitation program:
   Severity of symptoms (Borg Dyspnea Scale)
   Vitals (SpO_2, RR, BP, Temp)
   Exercise capacity (6 minute walk test)
   Comorbidities (Diabetes, Hypertension, Cancer, Other chronic diseases)
2. Patient education: Patient needs to be educated about a rehabilitation program tailored on the basis of patient's clinical condition.
3. The program would comprise of following:Aerobic Training:walking, on spot marching, stepping, stationary cycling.
4. Airway Clearance by coughing up into closed bag or closed container to prevent aerosolization of sputum followed by proper disposal.
5. Breathing retraining comprising of diaphragmatic breathing, pursed lip breathing, yoga, singing.
6. Nutritional and lifestyle advice: healthy diet comprising of high protein (2g/kg BW)[3] , nutritious diet, adequate sleep, good hydration, nutritional supplements like vitamin C, Zinc, high fibre diet.
7. Psychological support in the form of available print material and online resources.
8. Patients with primary pulmonary disease and special populations like elderly, immunocompromised, having chronic neurological ailments hampering mobility of patients should be given special consideration and should be offered an individualized custom made rehabilitation plan by the PM&R specialist.[3]

Moderate-Severe Disease:

Comprises of symptomatic disease, requiring monitoring and hospitalization. These patients have respiratory rate of > 30/ minute and spO_2 < 93 mm of Hg.[1]

1. Pulmonary Rehabilitation and mobilization should not be undertaken at the cost of safety of healthcare workers.[4]
2. Early mobilization in ICU by rehabilitation staff is not recommended and should be a consideration by the dedicated ICU staff.
3. PR in inpatient acute setting should be undertaken with great caution as around 3-5% of mildly symptomatic or asymptomatic patients have a tendency to progress to severe cases in next 7-14 days.[5]
4. Rehabilitation comprises of mobilization in bed, sit to stand, ambulation and breathing exercises, airway clearance techniques.
5. Rehabilitation should only be started once the patient becomes stable that is fever decreased, dyspnea improves, RR<30/ minute, SpO_2 > 90% and viral load decreases.[3]

Exclusion Criteria for Pulmonary Rehabilitation in this phase are:[2]

1) Body Temp > 100. 4 F
2) < 3 days to symptom onset/ time of diagnosis
3) < 3 days of dyspnea onset
4) chest radiograph progression by more than 50% within 24-48 hours.
5) SpO_2 < 90%
6) BP < 90/60 mm of Hg or > 180/90 mm of Hg

7) RR>40/min
8) HR < 40 beats/min or > 120 beats/min
9) New onset ischemia or myocardial ischemia
10) altered level of consciousness"

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Telemedicine based Post COVID-19 Pulmonary Rehabilitation- Opportunity for a Physiatrist!

Dr Harshanand Popalwar

Assistant Professor

Dept of PMR, AIIMS Nagpur

By the mid of December2020, UK announced new strain of COVID-19 which is more fatal as compared to current strains. World health organization has already announced the pandemic shall last for around 2 years.

As of the date on which this article was written, multiple vaccines were on final stage of clinical trial and few countries around world had started using it.

Recently, "Post COVID-19 respiratory management - Expert panel report" has been published by panel of pulmonologist from 26 premier institute of India in the Indian journal of chest diseases and allied sciences in Vol. 2, December 2020, and they have recommended pulmonary rehabilitation for Post COVID-19 patients with severe lung injury and other complications.

COVID-19 caused by severe acute respiratory symptom corona virus 2 (SARS-CoV-2) is a highly infectious respiratory tract disease, which can cause respiratory, physical, and psychological dysfunction in patients suffering from COVID-19 illness. Approximately 15% of individuals with COVID-19 develop moderate to severe disease and require hospitalization and oxygen support, with a further 5% who require admission to an Intensive Care Unit and supportive therapies including intubation and ventilation. The most common complication in severe COVID-19 patients is severe pneumonia, but other complications may include Acute Respiratory Distress Syndrome (ARDS), Sepsis and Septic Shock, Multiple Organ Failure, including Acute Kidney Injury and Cardiac Injury, which are more prevalent in at-risk groups including Older Age (> 70 years) and those with Co-morbid Diseases such as Cardiovascular Disease, Lung Disease, Diabetes and those who are Immunosuppressed.

Patients who have successfully recovered from the acute COVID-19 pneumonia will require health support to define and quantify the consequences of the disease. Alterations of lung tissue such as ground-glass opacities, consolidation, vascular thickening, bronchiectasis, pleural effusion, crazy paving pattern and irregular solid nodules, may progress in over 80% of patients. Persisting limitations in respiratory function and gas exchange will likely be more pronounced in the subgroup of ICU survivors. In addition, as in non-COVID-19 related acute respiratory distress syndrome (ARDS), we can anticipate a

high incidence of ICU acquired weakness that is associated with poor short- as well as long-term outcomes. Patients with COVID-19 seem to be prone to movement-related fatigue, similar to ARDS patients, even in those subjects not developing a critical illness. Therefore, pulmonary rehabilitation is crucial for both admitted and discharged patients of COVID-19.

1. Aim of Pulmonary rehab clinic: For COVID-19 patients, the aim of respiratory rehabilitation is to ameliorate dyspnoea, alleviate anxiety and depression, reduce complications, prevent and improve dysfunction, reduce morbidity, preserve functions, and improve quality of life as much as possible.
2. Why telemedicine based pulmonary rehabilitation? Patient who is recovered from COVID-19 illness shall be having severe weakness and other comorbid medical issues. To come daily for physical rehab sessions is practically impossible task.

   Telemedicine based pulmonary rehab is highly convenient, safe and effective mode to deliver rehab services directly at patients' place. In this, the initial assessment shall be done in physical presence and remaining program shall be advised and monitored through telemedicine. The patient education video explaining home based pulmonary rehabilitation and video call for monitoring shall be used as tools for effective rehab program.
3. Inclusion criteria for Telemedicine based pulmonary rehab
   a. Patient of treated COVID-19 illness with Age of 18 years or older with or without ICU stay.
   b. Treated COVID-19 patient with clinical and/ radiological evidence of pneumonitis.
   c. Patient with basic smartphone and internet availability.
   d. COVID-19 recovered patients with follow up within 15 days post-discharge from hospital.
4. Exclusion criteria for Telemedicine based pulmonary rehab
   a. An active case of COVID-19
   b. Pneumonitis due to other cause and history of existing lung diseases like COPD, ILD
   c. Body temperature more than 38 degree Celsius
   d. SpO_2 level less than 90 % at room air
   e. Uncontrolled diabetes and hypertension
   f. Any major symptomatic illness like ischemic heart disease, chronic kidney disease
   g. Dementia/ Cognitive impairment or symptomatic psychiatric illness
   h. An impaired hearing and / or vision disability which means that the instructions are not understood
5. Pulmonary rehab termination criteria: Patients who experience
   a. Temperature fluctuation (>37.2°C)
   b. Exacerbation of respiratory symptoms and fatigue that are not alleviated after rest.
   c. The physician should be consulted if the following symptoms occur during pulmonary rehab program: chest tightness, chest pain, dyspnea, severe cough, dizziness, headache, blurred vision, heart palpitations, profuse sweating, and unstable gait
6. Duration of Pulmonary rehab program: 4-6 weeks. 3 sessions per week via video call under PMR doctors supervision.
7. Requirement:
   a. Computer system with web camera and internet connection for telemedicine consultation and rehab sessions
   b. Incentive spirometer- 2
   c. Exercise bands- 2 sets

Opportunity for a physiatrist: As of my knowledge, dedicated Pulmonary rehabilitation program for patients of Post COVID-19 illness has been started at a very few centres in India. Few governments and corporate hospitals are offering this facility. Under the guidance of Dr R K Wadhawa, HOD PMR, we have started Telemedicine based pulmonary rehab clinic at VMMC and Safdarjung hospital New Delhi in the month of September 2020. So far we have offered pulmonary rehabilitation services to more than 50 patients of Post COVID-19 illness. Telemedicine based Pulmonary rehabilitation is very much cost effective, feasible and safe to patients. I believe, this pandemic has given a good opportunity to physiatrist to serve patients of Post COVID -19 illness in the form of pulmonary rehabilitation services and serve humanity!

DISABILITY DAY CELEBRATION

AIIMS Bhopal

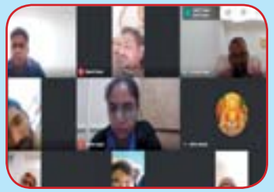
Dept of PMR, AIIMS Bhopal observed International Day of Persons with Disabilities (IDPD) by organizing Webinar on "Rehabilitation of Amputee" on Thursday, 2 nd December, 2020, from 3 to 5 pm at AIIMS Bhopal. PMR persons from all corners along with all faculties and staffs of AIIMS Bhopal attended this event. Chief Guest was Prof (Dr) Sarman Singh, Director AIIMS, Bhopal. Organizing Secretaries were Dr S. Y. Kothari, Professor (Consultant) and Dr Swapnil Sonune, Assistant Professor; PM&R AIIMS, Bhopal. Webinar Coordinator was Dr Sandeep Kumar Gupta, Senior Resident, PM&R AIIMS, Bhopal. Inaugural address given by Chief Guest, Prof (Dr) Sarman Singh, Director AIIMS, Bhopal. Dr Reni Benny, Dr Anuradha Shenoy, Dr Swapnil Sonune, Dr Rachit Gulati spoke on "Current Situation and Causes of amputation in India", "Surgical Principles of Amputation", "Rehabilitation of Amputee", "Overview on Prosthetics", respectively. Dr S. Y. Kothari spoke on "Special technique of Amputation- PMR point of view" vividly. Vote of thanks given by Dr Sandeep K. Gupta.

AIIMS Patna

On the concluding day of disability awareness week from 3rd to 9th December, Department of PMR, AIIMS Patna organized a Scientific programme in which faculties from AIIMS PATNA , IGIMS Patna delivered talks on rehabilitation of DIVYANGJAN amidst ongoing Covid-19 pandemic. They also talked about rights and privileges of DIVYANGJAN. Dr Sanjay Kumar Pandey, Organizing Chairman and Head, Dept of PMR stressed upon the need of barrier free access for Divyang Jan at all public office and government place Dr Deepak Kumar talked about importance of Delhi rehabilitation Delhi In this COVID Eire Director, AIIMS Patna, Dr PK Singh appreciated the effort of department in creating awareness about disability rehabilitation. Other prominent speakers were Professor Umesh Bhadani, Dean AIIMS Patna Professor Neeraj Agarwal, Dean AIIMS Bibinagar, Professor Prem Kumar, Bindey Kumar, DDA AIIMS Patna, Sri Parimal Sinha, Dr Sanjeev, Dr Deependra, Dr Anup, Dr Veena, also participated in this event in this event along with other nursing officers and paramedical staff. Mr Kumar Ravi, DM, Patna was the Chief Guest for the event and talked about the need of wide spread awareness regarding rehabilitation need of DIVYANGJAN among all Medical personnel and public at large. There was also certificate distribution to CORONA Warrior by DM Patna. Shared by Dr Sanjay Kumar Pandey on 9.12.2020.



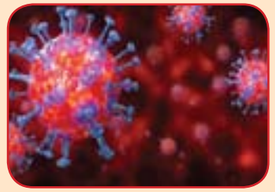

AIIMS Mangalagiri and Dr BSA Medical College



To celebrate International Day for Persons with Disability, Dept of PMR, AIIMS, Mangalagiri in association with Dept of PMR, Dr BSA Medical College, Rohini, New Delhi today organized public awareness virtual meet for Persons with Disability on the topic Disability benefits for Persons with Disability. Around 25 patients and their caregivers attended the program and found it useful as many of them were absolutely unaware about the benefits. Shared by Dr Chethan Channaveera, Dr Amol Khade and Dr Harleen Uppal.

AIIMS RAIPUR

Dept of PMR, AIIMS Raipur organized a webinar on 3 rd. December, 2020 at 4 p.m on the auspicious day of "International Day of Persons with Disabilities". Dr Nitin M. Agarkar, Director, AIIMS Raipur was the chief guest. Dr R. K. Srivastava, Ex-Chairman BOG, MCI and Ex- DGHS, GOI was the speaker. Dr R. K. Srivastava delivered an outstanding lecture on "NMC and its impact on UG teaching in India including AIIMS, JIPMER like Institutes". The lecture was followed by unveiling of an Illustrated Handbook on Post-COVID-19 Pulmonary Rehabilitation. Introduction to booklet release given by Dr Jaydeep Nandi and Introduction to the theme talk given by Dr Raunak Kumar, Assistant Professor, Dept of PMR, AIIMS Raipur. Besides FB live streaming, the zoom link for interactive participation was being provided to interested faculties before the program.


Christian Medical College and Hospital, Ludhiana

Department of Physical Medicine and Rehabilitation, Christian Medical College and Hospital, Ludhiana observed World Disability Day on 3rd December, 2020 with the theme "Building Back Better: Towards an Inclusive, Accessible and Sustainable Post Covid -19 World By, For and with the Persons with Disabilities". The Observance of the Day aims to promote an understanding of disability issues and mobilize support for the dignity, rights and well-being of persons with disabilities.

CMC, Vellore

Dept of PMR, CMC, Vellore organized online Seminar on "Communication and Swallowing in persons with Traumatic Brain Injury" on 3rd and 4th December to celebrate the auspicious day of "International Day of Persons with Disabilities" as a part of Continuing Medical Education 2020.



Dept of PMR, Tirur District Hospital

Dept of PMR, Tirur District Hospital observed the day of "International Day of Persons with Disabilities" on 3rd. December, 2020.

Dr Ajit Kumar Varma

Dr Ajit Kumar Varma was being felicitated on the day of International day for the Disabled on 03.12.2020. Shared by Dr Amit Malik.


Dr Sanjay Wadhwa on DD NEWS on Disability Day


NIPMR

NIPMR celebrated the International Day for Persons with Disabilities by dedicating Art Ability Centre to public. Also, listen to final year medical student Mishal, who battles CP with determination and is an inspiration for all. Shared by Dr Sindhu Vijayakumar, Physiatrist, NIPMR

Lady Hardinge Medical College

Department of Physical Medicine & Rehabilitation (PMR), Lady Hardinge Medical College on occasion of International Day of Persons with Disabilities organized Webinar. Theme was "Not All Disabilities are Visible" on 03.12.2020 (Thursday) from 2:00 PM to 4:00 PM. Dr Ritu Majumdar, Prof. & Head, PMR welcomed all. Dr N. N Mathur, Director, LHMC & Associated Hospitals delivered the Welcome Address followed by Spiritual Song sung by Person with Disability. Dr Shikha B. Bhardwaj, Associate Professor, PMR discussed on "Disability Etiquettes". There was an excellent Panel Discussion on "Not All Disabilities are Visible". The Moderator was Dr Ritu Majumdar, Prof. & Head, PMR. The Panellists were Dr Sharmila B. Mukherjee, Professor, Pediatrics, Dr Ritu Majumdar, Dr Om Sai Ramesh V., Associate Professor, Psychiatry, Dr Rajinder K. Dhamija, Dir - Professor, Neurology, Dr Minati Acharjya, CMO (SAG), PMR. An Cultural Program for encouraging talents in Persons with Disability. Vote of thanks was given by Dr Ravi K. Preenja, Associate Professor, PMR.




Thanjavur Medical College on Disability Day









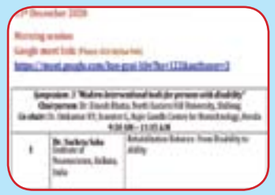


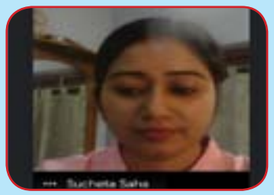
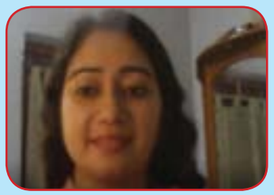
NILD on Disability Day

Wings of Colours-International Day of Persons with Disabilities 2020

Dr Sucheta Saha at SNCI Conference

On 13th December 2020, Dr. Sucheta Saha, Consultant Physiatrist, Institute of Neurosciences, Kolkata, delivered a talk on Symposium on "Modern Interventional tools for persons with disability". Her topic was "Rehabilitation Robotics: From Disability to Ability". It was a 45 minutes lecture which was highly appreciated. This Symposium was Chaired by Dr Dinesh Bhatia, North Eastern Hill University, Shillong and Co-Chaired by Dr Omkumar RV, Scientist G, Rajiv Gandhi Centre for Biotechnology, Kerala.



Dr Sucheta Saha on SCI DAY

In National Webinar Series on Spinal Cord Injury Rehabilitation and Research from 5th September to 17th October on the occasion of Spinal Cord Injury Day organized by Association of People with Disability Centre for Spinal Cord Injury Rehabilitation and Research, Dr Sucheta Saha, Consultant Physiatrist, Institute of Neurosciences, Kolkata bagged the third position for her presentation on " Vitamin levels in persons with traumatic spinal cord injury: A multicenter observational study". She is also a winner of the quiz competition and got the second position.

WORLD Diabetes Day

The Nurse and Diabetes. . . theme of World Diabetes Day 2020

world diabetes day
14 November

WORLD SPINE DAY observed by Aster Medcity

CP DAY: NIPMR Kallettumkara

NIPMR, Kallettumkara organized an Panel discussion on management of Cerebral Palsy on Zoom platform on Oct 6, 2020 06:00 p.m.; mostly delivered in Malayalam for parents. Shared by Dr Sindhu Vijoy.

Aster Medicity: on Physiatry Day

Dr Anand Varma on World Osteoporosis Day

Dr Anand Verma participated as a faculty in the CME/webinar organized by Dept. of Orthopedics, KIMS & Hubli-Dharwad Orthopedic Association (HDOA) on the occasion of World Osteoporosis Day. He spoke on "Role of Rehabilitation in the management of fragility fractures". Shared by Dr Anand Varma on 20.10.2020.

On Electronic Media on Post-Covid Rehabilitation

Dr Maheswarappa B.M, Senior Consultant and HOD, Dept of Physical Medicine and Rehabilitation and Sports Medicine, Sakra World Hospital was attened a live programme on DD Chandana Live TV on 19 th. December, 2020 from 12 noon to 12.30 p.m. Discussed on "Post-COVID Rehabilitation".

WBIAPMR

WBIAPMR had arranged its 2nd WEBINAR on 5th October, Monday at 8 PM. Dr. Prabir Mondal and Dr. Ushnish Mukherjee shared the guidelines of Covid 19 management and their experience as front line COVID-19 warriors. The topic was "COVID19: Physiatrist Perspective". Almost 50 members participated in the Webinar. Shared by Dr Dilip Khatua.

WEBINAR at RIMS IMPHAL by COVID affected PGT

Webinar of Dept of PMR, RIMS, Imphal on 20.10.2020 presented by a PG student who is on quarantine due to COVID. Shared by Dr Nilachandra Longjam.

AIIMS Patna on Post-Covid Rehabilitation

Centre of Excellence for Clinical Management on COVID-19, AIIMS, Patna organized 2nd Webinar Phase -II Series on 21st October, 2020, 1 p.m. to 5 p.m. Dr Sanjay Kumar Pandey, Additional Professor and HOD, Dept of PMR discussed on Rehabilitation in Post-COVID Patients.




AIIMS Patna as Covid Warrior

On 0th December 2020, all the Doctors of Dept of PMR, AIIMS Patna received certificates from Director, Prof (Dr) P. K. Singh as CORONA Warriors for taking part in this ongoing COVID -19 pandemic. AIIMS Patna declared as Center of excellence in fight against this pandemic. All the doctors of the Dept of PMR awarded certificates as they actively took part in clinical duties for the COVID patients as a member of COVID team under the leadership of Director, AIIMS Patna and Nodal officer Dr Sanjeev Kumar.



AIIMS Bhubaneswar

On 12.11.2020, new section of Occupational therapy and Orthotics & Prosthetics and Advanced Robotic Rehabilitation System inaugurated in the Dept of PMR, AIIMS, Bhubaneswar. Shared by Dr Jagannath Sahoo on 12.11.2020.


units for physically challenged





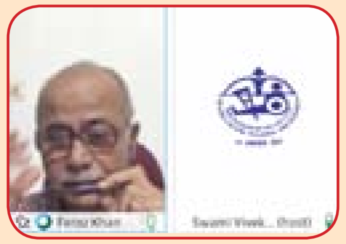

SVNIRTAR and IAPMR Odisha on Mental Health Week

SVNIRTAR & APMRO in collaboration with Odisha Digital Academy of Mental Health organizes webinar on occasion of "Mental health week 2020" with a theme "Mental health for All" from 7pm to 8pm on 8th October, 2020.

October-December 2020 Volume : 10 Issue : 3

IAPMR Odisha (World Cerebral Palsy day)

SVNIRTAR in association with Odisha Chapter of IAPMR observed World Cerebral Palsy day by arranging a Webinar 0n "Approach to management of CP- A Physiatrist's perspective" on 06.10.2020 at 8 pm. Dr Firoz Khan, Chairman, Academic Committee, IAPMR discussed vividly on the topic. Dr Sanjoy Das, President, IAPMR Odisha Branch and Dr S.P. Das, Director, SVNIRTAR were also present. Dr P.K.Sahoo, HOD, Dept of PMR, SVNIRTAR was the Moderator. Shared by Dr Abhishek Kumar Sanyal on 06.10.2020.





Dr. Vivek

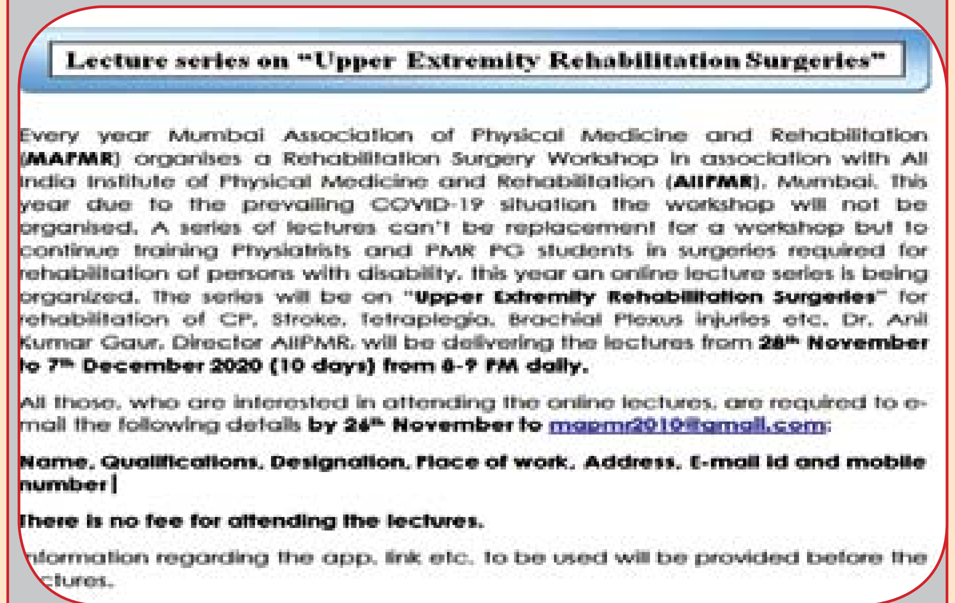

जागरूक जनता पेज 3

25-11-2020

कोरोना में 'होम केयर' एक अच्छी सेवा - डॉ. विवेक

MAPMR AIIPMR Mumbai

Lecture Series on "Upper Extrimity Rehabilitation Surgeries"


Lecture series on "Upper Extremity Rehabilitation Surgeries"

Every year Mumbai Association of Physical Medicine and Rehabilitation (**MAPMR**) organises a Rehabilitation Surgery Workshop in association with All India Institute of Physical Medicine and Rehabilitation (**AIIPMR**), Mumbai. this year due to the prevailing COVID-19 situation the workshop will not be organised. A series of lectures can't be replacement for a workshop but to continue training Physiatrists and PMR PG students in surgeries required for rehabilitation of persons with disability. this year an online lecture series is being organized. The series will be on "**Upper Extremity Rehabilitation Surgeries**" for rehabilitation of CP, Stroke, Tetraplegia, Brachial Plexus injuries etc. Dr. Anil Kumar Gaur, Director AIIPMR, will be delivering the lectures from **28th November to 7th December 2020 (10 days) from 8-9 PM daily.**

All those, who are interested in attending the online lectures, are required to e-mail the following details **by 26th November to** mapmr2010@gmail.com;

Name, Qualifications, Designation, Place of work, Address, E-mail id and mobile number

There is no fee for attending the lectures.

Information regarding the app, link etc. to be used will be provided before the lectures.

LOGO

by Dr Jaydeep Nandy, AIIMS Raipur

First attempt by Dr Jaydeep Nandi, AIIMS Raipur, to make a LOGO especially for PMR department. Highlights quite a few services expected to be there in such a dept (viz., Gait analysis, foot pressure map, USG guided procedures, Prosthetics, 3D scanning, Assistive technology, OT procedures, Fluoroscopic spinal, Urodynamics, Botulinum toxin injection and EMG NCV).

BAPMRCON (Annual Conference of BAPMR)

Bihar Association of Physical Medicine & Rehabilitation (BAPMR) 2nd Event (BAPMRCON 2020) in the COVID era after IAPMR Mid-term online CME (31 Oct-1st Nov). BAPMR organized Annual Conference of BAPMR on 22 December 2020. Theme of the conference was "Moving Beyond Pain and Disability". Chief Guest, Sri Ashok Choudhary, Hon'ble Minister, Building Construction, Education, Science & Technology, Social Welfare & Minority Welfare Dept; Guest of Honour (Dr N R Biswas); Patrons Dr Manish Mandal and Dr Ranjit Guha; for their gracious presence and making the event successful. All members of Bihar PMR attended the Conference. Dr Sanjay Kumar Pandey. Dr Deepak Kumar, Dr Ganesh gave faculty lectures. Residents of PMR from AIIMS Patna and PMCH made Presentations. The whole program was a grand success and also got very good media coverage.

Dr R K Srivastava on RStv

DR R K SRIVASTAVA had a discussion on RsTV on CORONA and Bihar Election. Shared by Dr R. K. Shrivastava Link: https://youtu.be/YLsktpqTNo8.

Dr R K Srivastava
Discussion on Supreme Court order recommending ban on disinfectant tunnel

Dr R. K. Srivastava discussed on Supreme Court order recommending ban on disinfectant tunnel on RsTV. Shared by Dr R. K. Srivastava. Link: https://youtu.be/CnRDASOQ4tg.

Dr R K Srivastava

Shared by Dr R J Srivastava on 04.12.2020, Youtube link:https://youtu.be/A0_XorYZu7A

Dr R. K. Srivastava on right to health to ensure affordable health care in RsTV

Dr R. K. Srivastava discussed on SC directive to centre and state governments on right to health to ensure affordable health care. Link: https://youtu.be/oWp70xbEPAQ Shared by Dr RK Srivastava on 21.12.2020.

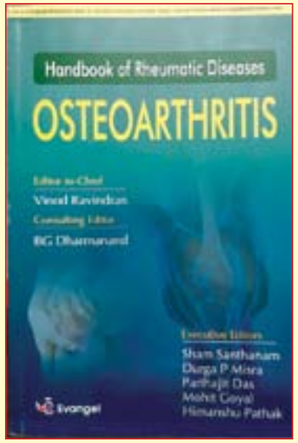
File Photograph

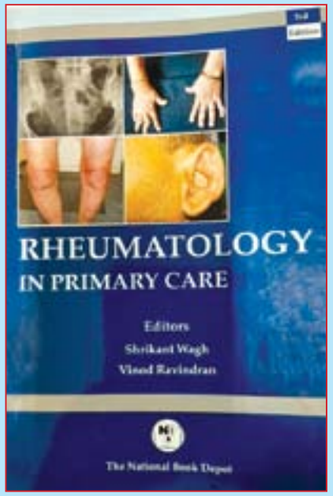
File photograph : Shared by Dr R K Srivastava

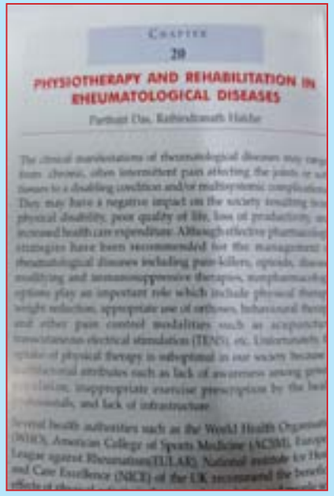
Dr R K SRIVASTAVA on RsTV on National Family Health Survey

NEW BOOKS AND CHAPTERS

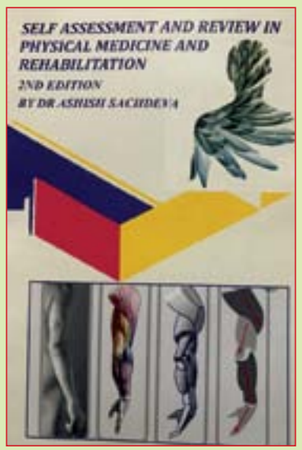
Chapter written by Dr R. N. Haldar







New Book by Dr Asish Sachdeva



New Issues

PMR BUZZ

Illustrated Handbook on Post COVID-19 Pulmonary Rehabilitation by the Dept of PMR, AIIMS Raipur

Handbook on Rehabilitation for COVID-19 Patients by AIIMS Rishikesh

IAPMR Mid-Term CME, 2020

IAPMR Mid-term CME was organized by Bihar Association of Physical Medicine and Rehabilitation (BAPMR) on 31st Oct & 1st November. This was have an overwhelming response with first of its kind of First Virtual National IAPMR CME attended by more then 400 delegates, faculties from India and abroad. The theme was "Rehabilitation – Redefined". Organizing Secretary was Dr Sanjay Kumar Pandey, and Co- Organizing Secretary was Dr Raj Kumar. Chairman Scientific Committee was Dr Ajit Kumar Verma, and Vice- Chairman Scientific Committee was Dr Deepak Kumar. Director, Dean, MS, AIIMS PATNA, Director IGIMS, Dean IGIMS.MS IGIMS, Principal IGIMS, Principal PMCH, President, IAPMR, Secretary IAPMR for their graceful presence at Inaugural Function of IAPMR MIDTERM CME 2020 and release of Souvenir. Director, IGIMS Prof N R Biswas was connected and blessed online. Faculties and all members of BAPMR worked hard for making this a successful one.

IAPMR Mid-Term CME 2020 (Online) Prizes and Certificates of Award session:

- 1st Prize (Rs. 5000/ cash + Certificate): Dr Moirangthem Janet of RIMS, Imphal.
- 2nd Prize (Rs. 3000/ cash + Certificate): Dr. Anit Catherine Charls of St. John's Medical College Bangalore.

Organizing Team

Webinar Desk

Webinar Desk

Webinar Desk

Webinar Desk

Webinar Desk

Inauguration

Inauguration

Inauguration

Inauguration

Inauguration

Inauguration

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Inauguration

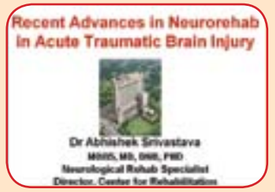
Felicitation of Org.Secretary

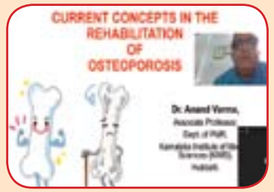
Inauguration

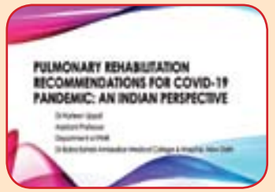
President and Secretary, IAPMR on online Inaugural Function

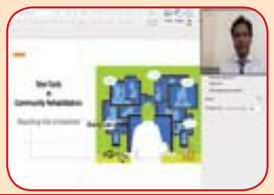
Release of Souvenir

Virtual Release of Souvenir









Closing Ceremony and Valedictory Session

Forthcoming National Programme
IAPMRCON 2021

Organized by Tamilnadu Chapter of Indian Association of Physical Medicine and Rehabilitation

Theme :

"Emerging Trends & Concepts in Rehabilitation Medicine"

22nd to 24th January 2021

Pre-Conference Workshop on

21st January 2021

Visit :

www.iapmrcon2021.com

Members' News

Dr Harshanand got selected and joined as an Assistant Professor in the department of Physical medicine and rehabilitation, AIIMS Nagpur. Shared by Dr Harshanand

Dr Raunak Kr Singh, who had recently completed Senior Residency in the department of PMR, has been selected to the post of Assistant Professor, PMR, at AIIMS, Raipur. Shared by Dr Sanjay Wadhwa on 13.10.2020

Dr Darendrajit Singh got selected Assistant Professor, AIIMS Jodhpur.

Dr Nitesh Gonnade promoted to Associate Professor, AIIMS Jodhpur.

Dr Darendrajit Singh and **Dr Gaurav Gomez** has cleared AIIMS, Delhi Pain Fellowship Entrance Examination.

Dr Vinay Kanaujia successfully completed the Post-Doctoral Fellowship in Trauma Rehabilitation from AIIMS Rishikesh. Shared by Dr Raj Kumar Yadav.

Appeal

From the Desk of Editor

To all Members and

Branch Secretaries

Please don't forget to share your activities, achievements and events for inclusion in the IAPMR Bulletin regularly to enrich all members!

You may please send your contributions to me via **Whatsapp on 94331 24596** or write to me at

editorofiapmrbulletin@gmail.com

or

drsaumen16@yahoo.com

You are also welcome to send us other relevant print materials by post to the following address:

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