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THE GREY MATTER

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QUARTERLY NEWSLETTER FOR MEDICAL STUDENTS



BABY ON BOARD

Kid You Not

In the venn diagram of medical students, there are two spheres, one representing some of us who get distracted during our paediatric clinics and end up playing with the children and the other half is characterized by those who squirm at the sound of crying babies. The spheres only converge at the sight of a sick child where our priorities align and treating the child becomes our main focus. The diagnostic process is incidentally quite like a child's jigsaw puzzle where we gather the pieces in the form of history, evaluation & investigations and place them together to complete the picture.

Throughout M.B.B.S., we find tons of things to remember and revise, the National Immunisation Schedule being one that gets reinforced every year. Our course is designed as such that we learn to empathise with the patient, but it is only in the field of paediatrics where we learn that this empathy is to be extended towards the parents as well. Even though it is the one department that every human has certainly been to as a patient, it's also the one department that requires immense courage to pursue.

With this edition we chose to highlight various aspects of paediatric health care and the advancements that our country has seen in certain niche specialties such as paediatric nephrology and endocrinology.

Unnati Shukla & Khushboo Doshi, Co-Editors

Happy Reading!

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KERATOCONUS

by Dr. Samira Davalbhakta, Intern, B.J. Medical College, Pune

The word Keratoconus could possibly be one of the easiest word origins to guess. Keratos- Cornea, Conus- Cone. The Greek science geeks finally got the memo: SIMPLIFY IT. This condition piqued my curiosity when a family member of mine was diagnosed with it at the age of 11.

The cornea is a fascinating tissue. Despite having 6 layers of different types of cells, it's absolutely transparent, allowing us to see clearly. It also has a 2/3rd contribution to our visual acuity. So, if something goes wrong with the cornea, it significantly hampers our vision. Do you remember studying optics in physics? Any change in the curvature of the lens that we would draw in our books would lead to the image of the candle landing in a different location. That should give you a good idea of how, if the curvature of the cornea changes even a little bit, it's going to lead to a distorted image.

This condition presents itself in adolescence, progresses for 10-20 years, and then stabilizes in your 30s-40s. Children present with a frequent change in their spectacle power as one of the earliest manifestations. The specs they got made a couple of months ago, just don't seem to work anymore. What a nightmare for the parents too! What makes it worse is that keratoconus is often asymmetrical. This means, one eye could have coning far more than the other leading to a significantly different refractive error in both eyes!

If we go deeper into the pathogenesis, the corneal collagen fibres are where everything goes wrong. Remember the wonderful transparency of the cornea we spoke about? Attributed to the well-organised structure of the corneal stroma, which is undermined in keratoconus.



The progressive thinning and steeping of the cornea happens because those collagen fibres become weak, and their binding to each other gives way. The pressure of the eyelids and frequent rubbing of the eye are factors that ultimately lead to a change in the shape of the cornea, giving it that characteristic cone shape which leads to the typical Munson's Sign (when a patient looks down, the lower eyelid forms a V shape due to the relatively pointy nature of the cornea). This condition is really important to catch onto as soon as possible. Since it affects visual acuity, a child's social and educational development is also considerably hampered. Not to mention that in children, this condition progresses to a far greater degree and far more aggressively than it does in adults. So how is something like this treated ?

I had the privilege of observing a jaw-dropping surgery. Corneal Crosslinking (CXL) with Riboflavin and Ultraviolet (A) light is a procedure which is now commonly done to halt the progression of keratoconus and improve the visual acuity. You might remember Riboflavin as vitamin B2 from your biochemistry classes. This vitamin, when used with UVA light is utilized to promote cross-linking or bonding of the collagen monomers into collagen polymers in the corneal stroma. This ultimately leads to the strengthening of the cornea. Riboflavin has an additional protective function, preventing the UVA light from harming the posterior structures of the eye.

The particular surgery that I observed followed an accelerated version of the Dresden protocol. Here, the patient's eye was first anaesthetized with topical eye drops. Then, the central epithelium of the cornea is removed by simply putting a few drops of concentrated alcohol and scraping off the margins left behind. Using a syringe, riboflavin was applied to the corneal surface, a few drops at a time. The consistency was thick enough for the drops to neatly shape over the corneal surface and not slip away. These drops were applied a couple of times at specified intervals before hitting the cornea with UVA light. Before I knew it, the procedure was over and the surgeon was applying a bandage contact lens, instructing the patient on antibiotic and steroid eye drops, and advising on follow-up. Importance of detecting keratoconus in a young person is highlighted here. Vision once lost, is difficult to regain, but procedures like CXL are extremely beneficial in halting disease progression and providing an improvement in the vision. This can go leaps and bounds into maintaining and improving someone's vision-related quality of life.

LET'S GET RE(N)AL

GUEST INTERVIEW

Dr. Hepal Vora, DNB Paediatrics, Paediatric Nephrologist at Global Hospital, Mumbai

In conversation with Khushboo Doshi and Unnati Shukla III/I M.B.B.S., M.I.M.E.R. Medical College, Pune



Dr. Hepal Vora

Dr. Hepal Vora is a Pediatric Nephrologist with an elite skill set. She received her medical training from TNMC, Nair Hospital, Mumbai followed by DNB Pediatric from Surya Children's Hospital, Mumbai. Then she went on to pursue a Fellowship in Dialysis Medicine and a Fellowship in Clinical Nephrology both from Global Hospitals. Managing children with kidney diseases is her forte in addition to adult Nephrology. She has been a part of various conferences in nephrology, kidney transplantation, fluid and electrolyte balance, nutritional anemia, rational use of blood products, etc. She has also been a part of ISN zonal conferences, Mumbai Nephrology Group meetings and various nephrology quizzes.

Dr. Hepal has also authored various papers that have been published in many esteemed medical journals and publications. She has presented her papers and posters on various platforms including the ISN West Zone.

Q) What about the field of Paediatrics piqued your interest?

To be very honest, I have always leaned towards medicine more than surgery. At the level of M.B.B.S. one usually does get inclined towards a few subjects and for me those subjects were Medicine, Gynaecology and Paediatrics. To boil it down to one field was very difficult at that stage. With entrance exams, however a lot of your choices depend on what rank you get. Unfortunately, I didn't get in on my first attempt. Meanwhile I decided to work as a registrar in the

Pediatric department of the college I did my undergraduation in. Working practically in pediatrics not only increased my fascination for the field but within 6 months of working in the ICU, paediatric wards, and dealing with emergencies I was convinced that this is where I wanted to continue. So in my subsequent attempt I got into DNB paediatrics and that is how I landed in this field.

Q) Given that you specialise in paediatric nephrology, how much do you think our country has progressed in specialty paediatric care?

When I was a student about 8 to 9 years ago, specialty pediatric care was still very niche. Over my years of experience there has definitely been an evolution in Pediatrics as a speciality. People have become more aware of the fact that something like this exists, that there are super specialities in paediatrics as well now. However general paediatrics still has a huge hold over the patients, a patient wouldn't go to a specialist unless a general pediatrician refers them. Parents develop a bond with their general pediatrician as their child is checked up on by him from day one whether it has to do with vaccinations or other follow ups. The parents end up consulting the general pediatrician for every complaint. It is up to him to decide when it's time to refer the child to a specialist. And that concept of referral in itself is still upcoming. To give you an example, in General Medicine initially everybody would go to MD Physicians but now one knows that there are Cardiologists, Nephrologists and doesn't need a physician to refer them. This concept is still developing in paediatrics. A general pediatrician wouldn't be able to provide the best level of care to the child if he/she has a specific organ system involvement, as his/her knowledge would be limited. Nonetheless, now many hospitals have specialty clinics and the number of doctors practising speciality care has also increased.

There's still a long way to go but that will take time.

Q) Post pandemic, do you see any change in your form of practice?

Initially, patients would end up at the clinics with the smallest of problems but with the lockdown, we all learnt to adapt and scale the complaints before stepping out of the home.

During the pandemic, the service of online consultations was provided to patients and it has been convenient there's no doubt about that. But nowadays there is a 'WhatsApp' message for every little thing and the doctor is expected to immediately respond. This gets a little tedious and is one untoward outcome of online consultations. Nevertheless things are on their way to normalcy now.

Q) What does a typical day in your life look like?

Each day is unique for a doctor. There is no such thing as a typical day. As a doctor you realise that even when you plan your day, there is no guarantee that the day will continue accordingly. There are always surprises that you cannot ignore. The other day, for instance, I had planned to wind up my day by 5pm and I ended up staying in the hospital past my working hours.

Generally, my day would include long working hours and a lot of running around. As doctors you need to be ready to treat patients round the clock if need be but at the end of day when you settle into practice you need to decide for yourself how extensive you want it to be.

Q) With your hectic schedule how do you manage to destress?

Like I said, sometimes even if we plan to destress we may not get the time. A break is of course always refreshing and helps you come back more energetic. I usually take a day to myself and I'm ready to go back to the hospital the next day. In our profession though, if you do take a few days off you start to feel a disconnect, hence continuity is very important.

If I end up not taking my ward rounds even for a single day, the next day there are so many changes that have happened in just 24 hours with all the patients. We do feel the need for breaks though as we work through the weekends as well. However over a period of time you learn to manage time and maintain a work-life balance.

Q) Global hospital is known for performing some miracle surgeries. Could you tell us about such cases?

The institution has conducted some advanced surgeries. One such complicated procedure is combined kidney and liver transplant on children. The first case on which this procedure was done, has left an impression on me. It basically involved 4 teams working in sync. The transplant was conducted with the help of live donors and it was a marathon of about 12-15 hours. Being a part of something so big and critical sticks with you.

Q) Given that you are a paediatrician who is a parent herself, do you think this combination makes you more understanding of the parents who call you in the middle of the night and panic ?

Definitely, it has helped me in both ways, as a parent and as a doctor. If my child wakes up crying in middle of the night. I react just how any other parent would do, this adds a little perspective to my attitude.

As paediatricians you are trained to be gentle with your patient as well as the parents. This realisation is imbibed in every paediatrician, that handling the parents is as important as handling the child. Of course, after a long day, calls in middle of the night does get tiring but you do end up driving down to the hospital. After becoming a parent, there has been a shift in my tone when parents call me at random hours. On the other hand, I have learnt not to take every little step of my kid too seriously and panic.

Q) How much do you think we've progressed in research in the field of paediatric nephrology?

The branch of Paediatric Nephrology has come a long way with a lot of advancement, awareness and movement. It is a difficult branch with challenging outcomes. The doctor as well as the parents generally have a long course together. The research on biomarkers and resulting numbers are truly rewarding. Management of challenging cases of nephrotic syndrome, kidney injury and paediatric renal transplants have all become relatively easier due to advancement in research. Genetic analysis and bringing genetic basis to pathologies has had a big role in treatment lately.

Q) What special challenges do you face when treating kids with renal problems?

One big challenge is that every paediatric nephrology case is going to be a chronic one, the patient and parents are going to be with you lifelong. Unlike adults who present only with metabolic disturbance, in a child, development of the child comes under question. Achieving the optimum growth is the biggest task. Another challenge would be diet restrictions. As adults we tend to fall for food, expecting strict dietary restrictions in children is tough. Cost barriers that come with long term treatments and limited support from government and insurance doesn't help either. For parents to sustain a long term state of the art care is another barrier. Which is why empathy is the key, acknowledging the kind of sinking feeling the caregivers must be having is of importance. Despite the disease burden in our country, very few patients end up receiving the level of care required by their disease.

Q) What is the one change you would like to see in the medical education curriculum of our country?

These entrance exams have made all of us so exam oriented, that we fall behind in our clinical skills. When I entered MBBS, it was only during the final year or internship that we started thinking about the entrance exam. Throughout the course we were very methodical in attending our clinics and case presentations. But now, from what I see, students enter the course and immediately start thinking about cracking the entrance exam. And your entire study pattern is directed towards solving MCQs.

The issue with this pattern of education is that if you do not learn certain bedside skills in your MBBS years, you will never learn. Once you enter your speciality, things will get way more focused and building your foundation then will be impossible.

To some extent this might have led to loss of interest amongst teachers and guides as well, since clinical knowledge is no more the focus.

Q) What advice would you like to give current medical students?

I cannot obviously go against the system, even if I sit here and tell you not to run behind MCQs, it wouldn't be practical because without those MCQs you will not get into the speciality that you want. I would however say that this is the time for you to get your basics right, what you learn now you will never have a chance to learn again. Things like the basics of a sphygmomanometer, how it measures pressure and what the procedure is, will never be taught to you again, but they are extremely important concepts. These things help you determine a particular diagnosis. That skill of interpretation is essential.

These things are important for a doctor in any speciality and are ultimately what make a difference in one's practice.

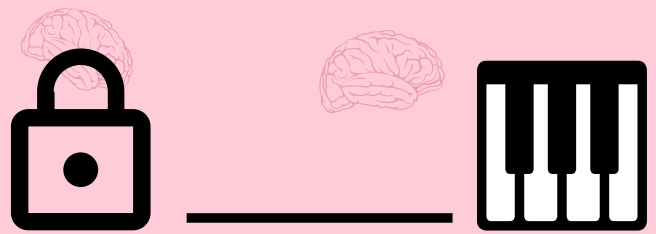
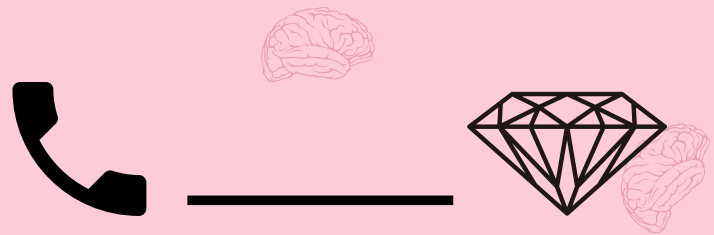
I think the attitude of all medical students should be always be towards patient care and that anything that is done in your practise should be in the best interest of the patient.

“Each day is unique for a doctor. There is no such thing as a typical day. As a doctor you realise that even when you plan your day, there is no guarantee that the day will continue accordingly.”

CORTEX

Let's get kiddish!

Use your temporal lobes and find the word associating both the objects!



Answers : ring, key, bank, park, sheet

TAAZA KHABAR



by **Madhav Bansal, III/I M.B.B.S., Institute of Medical Sciences & Sum Hospital, Bhubaneswar**

When it comes to any early antibiotic exposure, it may change human brain development in regions involved in cognitive and emotional abilities.

Penicillin and related antibiotics (such as ampicillin and amoxicillin) are the most commonly prescribed antibiotics for children all over the world.

The joint study performed by the esteemed Rutgers-New York Universities revealed that penicillin alters the microbiome, or billions of helpful microbes that dwell in and on our bodies, as well as gene expression, which allows cells to adapt to changes in their environment, in crucial parts of the developing brain.

Before the age of two, the average child in the United States takes roughly three rounds of antibacterial drugs.

Many other countries have even greater administration rates. It's hardly surprising, given that physicians in smaller clinical settings in underdeveloped nations don't view patients with presenting ailments as a learning opportunity, but rather as an illness to be treated as soon as possible and starting antibiotics stat seems like the easiest, non-challenging way forward.

An expanding amount of informative data connects intestinal events with brain signals, a field of study known as the "gut-brain-axis." If this route is disrupted, it can cause irreversible changes in the structure and function of the brain, as well as neuropsychiatric or neurodegenerative deficiencies in later childhood.

In this study, lab mice were given low-dose penicillin in utero or shortly after birth and compared to control mice. It was theorised that the mice that were given penicillin had substantial alterations in their gastrointestinal microbiota as well as altered gene expression in two vital brain regions involved in memory encoding, fear, and stress reactivity—the frontal cortex and the amygdala.

To avoid neurodevelopmental issues, the researchers have proposed decreasing broad antibiotic usage or utilising alternatives wherever feasible.



Whether it is the molecules from the microbiome that go up to the brain and destabilise gene function resulting in neurological impairments, or it is a direct action of antibiotic drugs on brain development during the formative years of an individual, we definitely need more studies to guide future medical practitioners' treatment approaches when prescribing for a child.

So question your pediatrician if it's actually necessary to administer antibiotics to your little one. A brief antibiotic course may appear to be a good bargain to alleviate a child's suffering, but little do parents and unimpeachable physicians realise how they end up causing nastier unforeseen developmental difficulties in the long term that are catastrophic and have no 'good deal solutions' as treatment modalities. Antibiotics have been the 'comfort zone' of prescription because many doctors are fearful and unwilling of losing their patient clientele if results do not appear quickly and end up writing a 'Rx Amoxicillin BD x 5 days'; while some doctors' treatment approaches are simply not challenged (they make the lucky lot, yet the most contributing one towards antibiotic resistance development and other above mentioned problems).

With a blinded approach to Paediatric antibiotic prescription practise, we may find ourselves in the midst of a clinical deadlock that overlooks data demonstrating major negative effects of the medication on brain development while yet dictating clinicians' interventions.

Psychologue

by Pamposh Bazaz, III/II M.B.B.S., Raichur Institute of Medical Sciences, Karnataka



Arun Kumar Kulkarni

Q.1) Could you tell us something about yourself and your role in the hospital?

I'm a clinical psychologist working in District Mental Health Programme for the state of Karnataka and have been deputed by the District Health Officer to work in Raichur taluka. I've done my masters in psychology, education and Kannada language. In the hospital, I primarily work on IQ assessment of children and providing counselling and therapy to the patient.

Q.2) What does a clinical psychologist working in the mental health programme do on a regular basis?

I work with the hospital staff with the primary goal of creating awareness amongst individuals seeking help and to create a more suitable environment to ensure that they remain compliant to the treatment. Besides the hospital, I regularly visit the taluka's rural and urban areas to create awareness about mental health through mental health camps. I also visit the district prison twice a month to assess the mental health of the inmates and help them deal with their issues as best I can.

Q.3) How do you approach patients and facilitate their treatment?

My job is to understand the patient more thoroughly and develop a treatment plan which is comfortable and viable for the patient. As I cannot prescribe medications to a patient, my job is to help the patient realize the issue and to basically help them learn the fundamental life skills that they may lack along with improving their mental health.

According to me, psychotherapy and medications go hand in hand and shouldn't be considered two separate entities to treat patients.

Q.4) You've been working in Raichur for a very long time now, what do you feel is missing in the community and how do you believe can these hurdles be overcome?

I think that Raichur being a rural area has lack of both awareness and facilities to provide mental health care to the people. There's a lot of stigmatisation involved which can be better dealt with awareness programmes. Even in hospitals, the psychological aspect of the patient is dealt with separately hence, there's a need to create a multidisciplinary approach for improving health overall. Lastly, I feel like young medical students like yourself should be educated more with regards to mental health to improve a doctor's approach to patients. If you, soon to be doctors, are well versed with the subject then through you a lot of people can be taught about dealing with their mental health much better than what is being done right now.



Comic by Atharva Rane,
III/I M.B.B.S, M.I.M.E.R. Medical College, Pune



Rajeshwari Karad

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Rutuja Waghmode

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Shutterbug

Karnataka



Rushikesh Kholgadge

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Solang Valley



Shreya Rohila

III/I M.B.B.S., M.I.M.E.R. Medical College, Pune

JUST LIKE YOU

by Aditya Gore and Atharwa Kulkarni, III/I M.B.B.S., M.I.M.E.R. Medical College, Pune

Mikey, an 8 year old boy, would find playing with his 3 year old sister a little difficult. He would flop on the floor and demonstrate poor motor coordination. He would repeatedly turn on and off lights in his room for several minutes.

On consultation, his occupational therapist highlighted some of these patterns.

On the 'Revised Knox Play Scale' he was found to have social skills of a 1 year old, imitation of a 2 year old while having gross motor skills of a 4 year old. The therapist suggested that Mikey could be suffering from 'ASD or Autism Spectrum Disorder'.

Before we discuss Mikey's case, let us review a few things. The word 'autism' comes from the Greek word 'autos' meaning 'self'. The term 'spectrum' in ASD refers to a wide range of symptoms of varying severity.

ASD primarily encompasses 4 major disorders - 1) Autism 2) Asperger's 3) Childhood Disintegrative Disorder 4) Unspecified form of Pervasive Developmental Disorder. These are the fundamental presentations one can see in ASD patients.

Autism manifests uniquely in every person. "If you've met one person with autism, you have met only one person with autism." - Dr. Stephen Shore

Asperger's is on the lower end of the autism spectrum. When you meet someone with Asperger's, you notice two things right off - Their IQ level is at par. They have trouble socialising. They also tend to have an obsessive focus on one topic and tend to perform certain repetitive behaviour. The popular show, The Good Doctor depicts Dr. Shaun Murphy to have autism and Savant syndrome; exemplary memory, imagination and intelligence but lacking social skills.

The etiology of the disorder is unknown but some studies have shown a connection with Down's syndrome, Fragile X syndrome or Tuberous Sclerosis. Many patients often suffer from other comorbid conditions such as, Attention Deficit Hyperactivity Disorder (ADHD), Bipolar Disorder (BPD), Tourette's syndrome etc. At the same time, many myths regarding vaccines and their preservatives like Thiomersal have proven 'not guilty' in the development of ASD.

Development of extra circuitry between corpus callosum, amygdala and cerebellum leading to surplus synapses are shown to cause ASD.

Unlike popular opinion nobody just 'grows out' of ASD. The treatment options that have been explored so far are mainly either antipsychotics or Cognitive Behavioural Therapy (CBT).

"But why fit in when you were born to stand out." - Dr. Seuss
ASD is just a diagnosis and it does not define what one can or should achieve in life. ASD has been diagnosed in innovators, creators and visionaries. There are people with ASD who have changed the world, forever looking beyond a medical condition that would have restricted most.

The richest man on Earth, Elon Musk publicly opened up about having Asperger's while hosting Saturday Night Live. The men who gave us "The Theory of Relativity" and the first AC motor, Einstein and Nikola Tesla both were on the spectrum. The Global music maestro Beethoven and artist Leonardo da Vinci too were diagnosed with the same.

It is loud and clear that one's ability to communicate cannot hinder his/her capacity to innovate and inspire.

We, as responsible citizens in society, must try to be more mindful towards the spectrum.

Following are a few points we must remember when we communicate with someone with ASD -

- 1) Try not to stare or maintain prolonged eye contact - It intimidates.
- 2) Try not to discuss their behaviours or treatment in front of them - It impacts the self confidence.
- 3) Try to maintain a happy mood around them - It helps everyone.
- 4) Avoid loud noises and fights - It induces stress.
- 5) Try treating them as normal human beings and adults with hopes, needs and feelings just like anybody else - They are normal.
- 6) Stop asking them to 'act normal' - They are not imposters.
- 7) Stop micromanaging and controlling their behaviour - They can adapt.



A DAY IN THE NICU

by Dr. Shivani Desai, Alumnus, M.I.M.E.R. Medical College, Pune



The experience of working in paediatrics unit as a health care personnel is starkly different from working in other wards. Just thinking about it makes me feel so...natsukashii. Though the surroundings are a minimised version of the other wards, it casts a bigger impression. The beeping of the monitors, the tiny I.V. bags, the phototherapy lights and then those tiny patients—sometimes fast asleep, sometimes struggling to cry.

The morning routine in NICU starts with washing hands, donning NICU gown, facemask, cap, footwear and then heading into the sterile bright room. Weighing all the babies, and charting their temperature and vitals for the morning rounds, making sure to sanitize my hands before and after touching each baby because these tiny ones quickly catch an infection. As challenging as it was to secure an i.v. line, it was equally challenging for me to watch the babies wince. Feeding them and watching them fall asleep was extremely calming, it kept me going through the tough emergency duty nights.

On one such ED evening, a home delivered 15 days old male baby was brought, he was irritable, restless and wouldn't stop crying. On examination, the neonate was lethargic, dehydrated and had low BP. With hourly monitoring and medical management throughout the night, the baby was stabilized by morning and a panel of tests later, the diagnosis of Congenital Adrenal Hyperplasia was made.

Congenital Adrenal Hyperplasia (CAH) is an inherited disorder that results in low levels of cortisol and high levels of male hormones causing development of male characteristics in a female.

Apart from the diagnosis, another tough task was counselling the parents of the neonate. I keenly observed how our professor explained the parents about ambiguous genitalia and informed the gender of the neonate being female. She also consoled the parents while explaining them the further treatment plan. Later, I told them the importance of regular ANC visits which would have helped in early diagnosis of this condition.

This incident made me understand the serious lack of awareness among the general public. Though multiple milestones have been achieved in the health care sector, prevention of childhood conditions certainly needs attention. It will be the implementation of these preventive measures that will bring a change than mere knowledge of it.

Through those sleepless nights and somewhere between cherishing the tiny ones and being disheartened by their conditions, I felt author Regina Taylor's words reverberate through me, 'I learned something all the time, rearranging what I thought I knew before.'

DIALOGUE

Dr. Sajili Mehta, Department of Paediatrics, M.I.M.E.R. Medical College, Pune
In conversation with Gauri Hirekerur and Neel Waghu, II MBBS, MIMER Medical College, Pune

Dr. Sajili Mehta is a Pediatric Diabetes & Hormonal Disorder specialist. She did her MBBS from M.I.M.E.R. Medical college and MD Paediatrics from B.J. Government Medical College and Sasson General Hospital, Pune. After completing her MD, she did a 2 year fellowship in Paediatric Endocrinology from Center for Diabetes and Endocrinology Research, Kanpur and B. J Wadia Hospital for Children, Mumbai (MUHS). She is associated with multiple hospitals like Jupiter Hospital, Surya Mother and Child Superspeciality Hospital, Noble Hospital.

Q.) What was your driving force behind deciding to specialise in endocrinology?

In my residency years, I found endocrinology to be challenging. Although there's a predominance of cardiology and neurology. I loved it because I was fascinated by the physiology behind it. I read regularly to update my knowledge and worked at solidifying my concepts.

Q.) With the recent advancements in online resources, there have been increasing cases where patients question and often take advice from multiple doctors. How do you overcome this issue and build a rapport with the patient?

Generally, my first step is to discuss the cause, degree of treatment, its outcome and the expectations of the patients. Since most cases that I deal with are chronic, I don't mind being open about it all. My patients are going to have to manage their endocrinal conditions for a lifetime, so I respect the fact that they would wish to have a second opinion from someone else.

Q.) What significant therapeutic advances have you seen in the field?

Endocrine techniques as such are yet to see substantial advancements; although insulin therapy has progressed quite a bit. From requiring daily pricks for blood sugar level testing, India has seen an increased affordability of Continuous Glucose Monitoring Device (CGM) and insulin pumps in the last few years. The evolving standard of living and developing technology has certainly aided in increasing positive awareness.



Dr. Sajili Mehta

Q.) Since you mentioned insulin therapy, can you tell us about your experience regarding managing Diabetes Mellitus in children?

Considering the uncertainty in its onset at any age starting from 1 to 18 years, it can prove to be a tedious task. Nowadays we see increasing cases of Type 1 Diabetes Mellitus in the younger demographic as well. Although the counselling process can be less challenging in the older kids as compared to small children, you still need to tread carefully around a sensitive topic such as a lifelong disease with the patient's family. It is understandably difficult for the parents to accept the fact that their child will be needing multiple insulin injections every day, especially when Diabetes is more commonly associated with the older age groups. We schedule regular counselling appointments with the patient and their family over a period of around 3 months to gradually help them come to terms with it and accept the situation.

Q.) What changes are necessary during the transition of therapy from childhood to adulthood?

The basic transition for every child is the same, with altered variations according to their way of living.

Small children tend to obey their parents thus it is easier to handle and get them to follow the routine, as opposed to adolescents and teenagers who may be set within their own ways. The lifestyle of the patient is a very important criteria. For example, treatment for an athlete has to be modified according to the physical training and exercises involved. For teenagers and adults, we need to talk to them frankly about alcohol, smoking and other addictions as well. I cannot stop them, it is their personal choice, but I do try to explain the harmful effects as my duty.

Q.) India being a developing country we see many infectious diseases. What is the epidemiological pattern of cases have you come across?

Recent years have seen a growing epidemic of obesity in paediatrics primarily due to a sedentary lifestyle. Obesity is the tip of an iceberg. we don't know what complications it could cause later in life. We see babies obese from 6 months of age, patients having heart attacks at 15 years, hypertension in late teens, Type II Diabetes Mellitus during adolescence too. This can lead to many hormonal issues and hinders a carefree childhood.

Q.) We see many cases of hypothyroidism especially in adolescent girls. Is any case that has stuck with you over the years?

I do recall a 1 year old neonate showing cardiac myopathy and stunted growth. Our team initially leaned towards a glycogen storage disorder after clinical examination. However, even after initiating what we thought was the right treatment, the baby did not show any signs of improvement, in fact the condition worsened and that's when we carried out thyroid function tests. The associated investigations then confirmed hypothyroidism.

Q) In your opinion, is there enough awareness about thyroid disorders?

It has fairly increased over the past decade, but early diagnosis is certainly helpful. If we pick it up before it manifests, it could be treatable. Only a small tablet can prevent all the problems from developmental delay to mental retardation. There are situations where patients at 11-12 years of age get diagnosed with congenital hypothyroidism, in which case it is too late to reverse the symptoms and signs. During my super speciality term at Wadia Hospital in Mumbai, we had around 200-300 deliveries everyday. After screening every baby for thyroid, we came across a prevalence of hypothyroidism in 1 in 2000 babies. Such a big number, in addition to lack of awareness and education could be due to financial constraints as well.

Q.) What is your advice to future medical students who aspire to specialise in your field?

I believe this field is very cumbersome and time consuming without a proper balance of monetary gains. So if you want to pursue paediatrics, you should be more dedicated to patient care than a financial focus. And you need to be thorough with the basic concepts taught during MBBS and PG. Specialisation is the need of time. Being knowledgeable goes a long way in moving one step forward.



by Khushboo Doshi, III/I M.B.B.S., M.I.M.E.R. Medical College, Pune

In a society based on patriarchal values, the burden of overworked healthcare system has been taken up by a group of women within the community. Asha, meaning hope, very well signifies what this group of women have to offer. Hope to the community, that even at the remotest location, you will be linked to the healthcare system of India. Overcoming education barriers and shattering the glass ceiling has led to formation of this force of women working day and night with the families for better health status. The pandemic only highlighted how the Indian healthcare system is heavily dependent on Asha workers for delivery of health services. The WHO Director-General Dr. Tedros Adhanom Ghebreyesus recognised ASHA workers and honoured their 'crucial role' in providing direct access to healthcare facilities in rural areas and their indefatigable efforts to rein in the coronavirus pandemic in the country.

This felicitation was long overdue, acknowledging this 17 years of establishment yet, it cannot put out of sight the imbalance between the efforts and rewards. Holding up the national immunisation program and maternal healthcare during the pandemic along with CoVid related services of spreading awareness often without PPEs has not only led to the end of pandemic but has also prevented eruption of new ones. After serving as foot soldiers during the pandemic, often working overtime, more than a million ASHA workers are still being denied the statutory minimum wage in the country.

Such recognition at a global standard should be stimulus enough for us to realise their importance and to do more to improve their living conditions.

HOW DIFFERENT ARE PANDEMIC BABIES?

by **Shrestha Mitra, III/II M.B.B.S., Dr.Vaishampayan Memorial Government Medical College, Solapur**

Back in 2015, when the Brie Larson starred 'Room' introduced the concept of a five-year-old imagining his room to be the entire world, it seemed intriguing and fresh as a plot. Not in a thousand years would one have thought that we might find a semblance of this in our realities. A baby born around 2019 spent the first few years of its life within four walls. For Babies, caregivers are their whole world and their greatest need is responsive, sensitive care. That is why, unless there are deficits in care or a stressful family environment, extra time at home must have benefitted the very young.

On the contrary, the 3-5 year group has been worse hit by the pandemic. By 3 years of age play becomes more imaginative, and most kids start craving time with friends. Serious cognitive development happens during interactive play while also offering social training. It's where kids learn to negotiate, share, take turns, and not to grab things or hurt other people's feelings.

Most toddlers have been taught to maintain social distancing to avoid infections, though some parents formed 'pods' with other homes which followed a similar safety protocol. Regardless of family protocols, children have been deprived of normal social interactions. After nearly two years, the under-fives remain in limbo. These kids are the last age group without access to a vaccine. While fewer young children develop severe illness from COVID-19 than adults, the risk of infection remains.

Whether this early-childhood pandemic experience will herald long-term mental health, development, or academic consequences depends on a family's individual challenges. Did a parent lose his job? Were they scrambling to work from home while caring for children? Did anyone get sick? Did they lose a loved one? Did kids have a routine and get one-on-one attention from a caregiver? Have they lived in an environment of omnipresent tension, fear, or depression?

Many parents have been anxious about their kids missing out on normal life experiences, languishing in front of screens, growing up in a socially distanced world. They worry about the effects of isolation, disruption, loss of loved ones, economic pressure, and collective trauma on their children during critical early development.

If children and families were struggling before, the pandemic likely made that worse. One peer-reviewed study showed promising outcomes for children from six to 36 months old. A team of paediatric nurse practitioners evaluated them to see if they were meeting developmental milestones. They examined motor skills, how kids respond to strangers, progress in mirroring a smile, their speech and vocabulary, problem solving skills and other milestone abilities. The researchers found no differences in social development. But in the six-month and the 12-month-old groups, there were slight difference in communication compared with those evaluated pre-pandemic

Now, with nearly two years of limited opportunities for social interaction, some developmental delays are appearing in slightly older children, those now three to six years old.

In pre-pandemic times, routine check-ups may have diagnosed some deficits. But many of those appointments were delayed amidst lockdowns and fears of contagion. A lot of referrals happen between 18 months and age four. There are kids who might have had a minor language delay that a year of early intervention would correct. What happens when they don't get that?

It is known that children who have adverse childhood experiences may develop long-term problems. High levels of stress or adversity can impact brain development, altering cognitive, social and emotional development, affecting decision making, learning, and memory. Stressed parents have less bandwidth and less patience.

The pandemic has created extraordinary circumstances. Many of those entering kindergarten with developmental or social issues have challenging backgrounds. They come from unstable, insecure homes where there's been too much screen time and not enough one-on-one attention or stimulating activities that are critical for healthy development. But there are caveats. Since resilience is built on relationships, connection with just one parent, grandparent, or other consistent, caring adult can provide a solid platform for social development.

And not all screen time is equal. Certain high-quality programs have educational benefits. Watching these shows can nurture language skills and help prepare children for school.

Understanding the scope of this generation's trajectory will take time, in part because the pandemic slowed child development research. In the few in-person studies done during this period, researchers were garbed in masks, face shields and other protective gear, which skews results with little kids because they're just learning language and facial cues. For other projects, the research was done with online questionnaires filled out by parents, without professional assessment of their children.

For now, schools remain the best resource for families, with teachers on the front line. There is a litany of issues seen in kindergarten students that were 3, 4 and 5 when the pandemic hit.

It takes a lot longer for them to get comfortable. They don't know how to act around other children. It's harder to hold their attention. They can't sit through a lesson.

They can't solve problems or do a lot of things for themselves. While some of this behavior is normal, especially for kindergartners, there seems to be more of it.

The overall emotional toll of these two hard years is evident. There are had kids who have lost loved ones. They're sad and angry as well.

The economic downturn and widening inequity are also obvious. A lot more kids are hungry and unclean as observed by kindergarten teachers.

Schools act as a stabilizing force in the lives of struggling families, anchoring communities. They provide meals, mental health services, some on-site health services, and connect families with resources. Closure of schools left a big gap. To get kids back on track, mental health and special needs services need to be a priority. That requires adequate funding.

It seems that going forward, teachers need to be prepared for incoming kindergartners that have a wider range of needs than before. Some kids have literally never sat down in a chair, next to another little body and been told to do something with a writing tool in their hand. Others have been doing that all along. Some kids aren't used to the noise, have never been in a routine or shared an object.

The families clinging to the bottom rungs of the societal ladder will need the most help. Learmonth isn't as confident that those children or other special needs kids will have access to the services needed to recover well. The good news is that most young children will be okay. Young humans are flexible, equipped with brains that have great 'plasticity'—the ability to adapt.

Personality is relatively stable. It's unlikely that the pandemic would squash an extrovert or create an introvert, though it could alter an individual's trajectory.

Experts agree that while 'bunker babies' may be a little immature, most will catch up once they get the chance to flex their social muscles. Since everyone is struggling, the question arises: If they're all behind, is anyone really behind?

As the pandemic continues to evolve and we move from the pandemic phase to the endemic phase, kids from all backgrounds will react even as things improve. Children don't like change, they love stability. Any shift in routine could trigger sleep problems or tantrums for weeks until kids settle into the new normal.

Maybe these kids will be more flexible because they've had this unusual experience. It might give them a more profound appreciation for being with people you love but we wonder if they will grow up with this sense of dread that the entire world can be imperilled and locked indoors at any moment.

Even though the challenges with respect to the paediatric population are daunting, this human civilization is nothing short of a miracle, we've been through wars, plagues and natural disasters. As a species we are amazingly resilient. There is still hope for us.



THE GEO-POLITICS OF HEALTHCARE DURING A PANDEMIC

By Jainil Devani, III/I M.B.B.S., G.M.E.R.S. Medical College, Gotri, Vadodara

"This accountability for the U.S. taxpayers' money being spent, is there anything being done to check on how it is being distributed, the aid that we are sending (to India)?" was a question raised in a White House Press Briefing, on 30th April 2021. This seemingly simple question, raised by a reporter, has repercussions that range far and wide, and make us wonder how Global co-operation in Healthcare fares in the current scenario of a worldwide medical emergency.

To understand how healthcare, medical resources and advancements work - from a global geopolitical standpoint, what better and more transparent example than to explore multinational relations during the COVID-19 pandemic. The apparently intangible and complex interweaving of international relations has one common string that unravels it: nations, economies and their healthcare systems in dire crisis.

Tracing up to the very beginning, China infamously reported it's first case of COVID-19 at the end of December, 2019. Shortly after, in the beginning of January, the entire Genomic sequence and available data was released globally via medical platforms, by China. This allowed scientists everywhere to start researching, learning and predicting the movements of the Virus. Test Kits were developed, the WHO gave guidelines on masks, travelling, and prevention. Scientists and Researchers all over the globe got a much-needed head-start on learning about the virus: this essentially prepared countries for the havoc it would wreak in the coming months.

It is integral for the safety of humanity as a whole that data and research pertaining to medical fields is not treated as a country's best-kept secret, but be shared and propelled to invite further advancements. In a rush for patents and "first" achievements, life-saving information cannot be withheld: it is scary to think what may have been if the virus' genomic data wasn't released globally.

Yet, on the flipside: as the world progressed into a deadly pandemic, countries and administrations started pointing their fingers to the origin-country. "Did China keep Coronavirus a secret for months?" was splashed on newspaper headlines. Leaders demanded answers on the origin, warnings and communication from China.

In an unprecedented move, the President of the United States declared their departure from WHO (later reversed). This also culminated in the WHO investigating China, and the origins of COVID-19 - the reports of which came out March 2021.

The 300-page document claimed that the suspected origins from the Wet Animal Market were in-fact true, only to be rendered an "unsatisfactory" investigation by the Director-General of WHO himself. "I do not believe that this assessment was extensive enough."

During a pandemic, politics put a strain on healthcare. It is common knowledge that governments aren't exactly "friendly" with each other - but what happens when these political relations interfere with health and safety?

After about a year of grappling with a harrowing pandemic, we saw a possible light at the end of the tunnel: in a feat of dedication and scientific marvel, our scientists came up with several vaccines deemed effective against COVID-19. The world collectively breathed a sigh of relief, but the road to recovery would be a treacherous one. After the initial months of vaccination, India's supply began running low amidst a crippling second wave. Wealthy countries debated whether or not patents, raw material and vaccines should reach economically weaker regions. Like every aspect of the pandemic, vaccine distribution put the divide between the rich and poor in the spotlight. Amongst talks of Vaccine passports, many governments failed to realise its unequal distribution. High income countries, which account for merely 19% of the adult population, have purchased the lion's share of global vaccine doses. WHO strived to work with governments to ensure subsidies and help for poorer countries to still have access to vaccines but their plans have more or less fallen on deaf ears.

Administrative bodies must understand that when it comes to health, solidarity globally is the best way to mitigate crises. Diseases and viruses know not of borders or nationalities, and the fight against them must be a global effort. Misinformed patriotism only backfires. The US infamously denied India raw materials for the vaccine when the latter was struggling with a second wave. Yet, along the vaccine discussion appeared a lot of positives as well - UK's AstraZeneca-Oxford vaccine was manufactured at a wide scale in India, a joint effort through and through. Countries like India exported thousands of doses to neighbouring countries in need.

Further, in a significant turn of events, the American administration took the first step to waive vaccine patents. This comes as a major turning point in Global Healthcare relations: waiving patents for vaccines was a request India and South Africa made months ago, and recently, the US supported it.

Yet, several countries like Germany still oppose overturning the Trips patent agreement. Experts also argue that simply overturning patents won't do the job, when economically weaker countries have no means of producing the vaccine in the first place. Nonetheless, even with some questionable decisions, the inoculation effort has displayed that governments are inclined to collaborate globally and support their fellow nations.

If the Vaccine patent waiver does go through, it will be a historic step forward in global co-operation of health sciences and pharmaceuticals.

Beginning in March 2021, India witnessed a terrifying second wave of the virus. Infections surged at a global high, and the healthcare system collapsed. Scenes of a totalitarian nightmare splashed news channels, national and international. And in this crisis, flowed an outpouring of support from citizens and governments of ally countries. The US, UK, and a host of other countries sent in ventilators, Oxygen concentrators, medical supplies, and much needed aid. These countries stepped in, in time of a dire emergency and lent a helping hand. Many media outlets questioned if the aid was reaching where it was intended, and found it sat for days at Airports due to logistical failures. In the end, though, the medical supplies reached hospitals and for many, proved to be a heaven-sent live saving gift. These three examples through the pandemic are just a small part of the bigger picture. Global relations and their effect on healthcare are perplexing, nuanced issues which can be looked at from many lenses: but this ongoing pandemic has made several things clear. Effective co-operation is the ultimate key to global well-being. COVID being a prime example, no country can unilaterally mitigate and navigate themselves out of a medical crisis. No country is truly free from the virus until everyone is. Curbing its spread, curing the sick and vaccination has to be a global effort – and just like that, all of healthcare needs to be an international agenda. This idea seems like a too-good-to-be-real utopia.

But, after World War II, a peaceful planet also seemed impossible. Leaders and governments banded together and signed several treaties to check weaponry, and put rules in place for war and invasion.

That is not to say we are a post-war world – but those treaties did lay down the foundation for better co-operation. This pandemic has proven to be as devastating, and will alter the course of humanity. No country fought it alone, and no country could have fought it alone. COVID-19 has shed a spotlight on the flaws and issues in our healthcare systems, microscopically and globally. We must heed these warnings, and there must be a global effort to renew and refocus on healthcare, medical science and advancements.

The WHO has done commendable work throughout the pandemic, and has also recognised its own flaws. This ordeal must be a collective lesson: healthcare is a front wherein effective global co-operation is the only way to well-being. Our leaders and governments must once again band together (as already proposed in the EU) and put systems and checks in place to reaffirm their dedication to better healthcare systems, and reform the rigid laws that disallow equal access.

To put it quite plainly, the definition of eradication lies in removing a disease globally. And just like that, the propagation and advancements in health sciences must also be global.

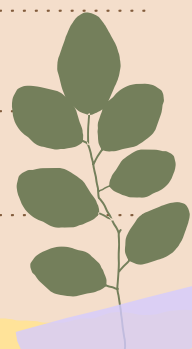
This pandemic has displayed the flaws in the system, the international geo-political relations that have affected the health of citizens. But it has also displayed solidarity, co-operation and a global spirit that strives for a healthy life. We must heed the warning bells, and strive for a future ahead that is a better and more hopeful – for each and everyone, everywhere, in true sense.

what was your idea of the world as a child?

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TABOO AROUND BREASTFEEDING

by Zoya Mhaisale, II M.B.B.S., M.I.M.E.R. Medical College, Pune

It's a usual day in a train compartment when the wailing of a child interrupts the silence of the surroundings. Within the chaos, the mother does try to feed her child but is only rewarded by awkward and uncomfortable glances. This has become a common scenario in countless parts of the world where a mother breastfeeding her child in public spaces is looked upon sinfully and unpleasantly. Despite public breastfeeding being legal in India it still carries tremendous social stigma. Unfortunately, this is prevalent in the most elite and educated pockets of the world. The controversy revolving public breastfeeding seeds from objectification and hyper-sexualization of the female body. As a result, breastfeeding mothers are forced to cover up, often choosing to conform to societal norms, over nurturing and nourishing their babies in public.

An 18-year study of over 1,000 children found that the infants who were breastfed possessed higher IQ levels and had greater academic achievements than the infants who were formula-fed. A report says, women who were breastfed as children even if for a short span had a lower risk of facing breast cancer than women who were bottle-fed as infants. The act of breastfeeding helps in developing maternal bonding as well as the involution of the uterus and restoring the pre-pregnancy body figure. It ensures nourishment and healthy growth of both. Also referred to as "liquid gold," breastmilk contains powerful antibodies that help babies fight off viruses and bacteria as well as providing the perfect mix of fat, proteins, and vitamins for growth.

Some other benefits include it being more economical in terms of time and cost as well as it being completely safe. Breastfeeding is a normal way of providing young babies with the nutrients, they need for healthy growth and development. Yet many babies do not get optimal feeding, putting them at a higher risk of death and diseases. India ranks lowest among South Asian countries with regard to breastfeeding practices, as per a report prepared by the Breastfeeding Promotion Network of India (BPNI) and Public Health Resource Network (PHRN) in 2016.

Workplace pressure, lack of time, changing family trends, stress, postpartum depression, discomfort to breastfeed in public, the unavailability of feeding rooms is making it more challenging for young mothers to feed their infant. Myths like - "You must give a child one formula feed to keep his tummy full, even when breastfeeding", "Throw away the first milk as its yellow" - are often propagated which further deprives the baby. This is causing a shift in focus to formula feeding and bottle milk which does not really help in building the immune system.

The way forward is by educating and propagating the right information so that women can make well-informed choices. Following the footsteps of our role models can also help highlight the issue. Like Larissa Waters, an Australian senator who created history by breastfeeding her 14-week-old baby, Alia Joy, while addressing the Parliament. The future generation needs to normalize women breastfeeding at restaurants, at cricket matches, on buses, trains, aeroplanes, everywhere. It's about time the world treated women as individuals with needs, and desires of their own rather than just objects, whose sole purpose is to oblige and satisfy the desires of men. We need a world that is more breastfeeding friendly, has flexible workplaces, more breastfeeding rooms and accommodates a woman's personal choice to ensure better health of the population.

Breastfeeding is an in-built survival instinct and the social stigma around it is not just a feminist but a parental issue affecting the growth of a child. A newborn baby has only three demands-warmth in the arms of its mother, to feed on her breasts and security in the knowledge of her presence. Breastfeeding satisfies all three.



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