Embracing Artifical Intelligence while preserving the Human element of Nursing Profession
by Capt. Indira Rani

Furthering the Medical Devices Sector in India
by Arvind Kumar Prajapati

AI and digital health - the key drivers of the next healthcare revolution
by Dr.Cherian

Readers Feedback

A Brief Review on InnoHEALTH
Most liked article of the last Issue....

Most read articles

Effects of Mobile Phones on Children's Health

innohealthmagazine.com/2019/well-being/effects-mobile-phones

Top Telemedicine companies in India

innohealthmagazine.com/2020/innovation/top-telemedicine-companies-in-india

Advantages & Disadvantages Real Time Health Monitoring Devices

innohealthmagazine.com/2018/research/real-time-health-monitoring-devices

India's top Artificial Intelligence Organizations in Healthcare

innohealthmagazine.com/2020/innovation/top-artificial-intelligence-

Difference Between Pranayama and Breathing

innohealthmagazine.com/2018/theme/pranayama-breathing-difference

Ayurveda - Mother of all Healings

innohealthmagazine.com/2017/well-being/mother-of-all-healings/

Feedback and Testimonials

A very innovative way of making people aware of the advances and facts about medicine. Even a common Man can understand the concepts in magazine easily. Keep going. Well organized contents, attractive pictures and precise information about a lots of important topics.

Dr. Shubha H. V
Assistant Professor at Sapthagiri Medical College
India

Dear Team, I am very much thankful and grateful that I got my article published in your esteemed E-health magazine. Special thanks to the chief editor and the team who is behind "InnoHEALTH". Such a great platform where everyone can showcase and express their thoughts in the healthcare through your magazine.

Tamanna Sachdeva
Project officer at Dakshayani and Amaravati Health and Education
India

Very well laid out magazine and are article are so current and reader friendly.

Ramesh Kumar Nanjundaiya
Global Ambassador - INDIA at Silicon Valley Forum (SVF)
USA

I would like to express my gratitude to the chief editor and editorial team of "InnoHealth" for the excellent coverage in the magazine published. The positive exposure you gave me on the International Nursing day.

Neha Lal
Sr General Manager - OPs & HR at GCS Medical College
Hospital & Research Centre
India

Your magazine is an extremely useful resource in the field of healthcare innovation. Keep up the good work!

Dr. Kanchan Mukherjee
Professor - Centre for Health Policy, Planing and Management
Tata Institute of Social Sciences (TISS)
India

Jai Anusandhan (Innovation)

Slogan of "Jai Jawan, Jai Kisan, Jai Vigyan", now added with 'Jai Anusandhan(Innovation)' by our present Prime Minister on 75th year of independence day speech. It is now the slogan of three different PMs at different times. It is very appropriate in the present context.

We at InnovatioCuris (IC) have been propagating innovations since the inception of IC. Great to be part of the new slogan of the nation.

InnoHEALTH

CONTENTS

PERSONA

PERSONA

THEME

INNOVATIONS

WELL-BEING

IN FOCUS

RESEARCH

NEWSCOPE

GUEST COLUMN

Embracing Artificial Intelligence while preserving the Human element of Nursing Profession

■ **Capt. Indira Rani**

• A scenario where robots using AIs would come up and say…. Hello sir, this is robot nurse Sophy, I need to give IV antibiotic, may I inject, Sir?

AI is revolutionizing the healthcare industry and driving it towards digital transformation along with alter the type of function nurses perform and challenges the true essence of nursing: The human connection.

AI is the ability of a machine to emulate intelligent human behaviours and represents an umbrella term for machine learning (ML), computer vision, and natural language processing (NLP) technologies.AI is already changing the patient experience, how clinicians practice

Nurses perform multiple tasks during their shifts which involves both direct and indirect patient care activities from admission to discharge. From assessment, formulation, implementation and evaluation of nursing care plan, monitoring, pre and post operative care, drawing up samples for labs, preparing

> **AI enabled systems will augment nurses on a huge scale but will not replace them.**

> ## Bringing the nurse leaders, nurse clinical specialists, nurse academicians and faculty, altogether is an intelligent way to keep pace with AI advancement while preserving the essence of nursing- the human element of this noble profession.

patient for various invasive and non-invasive diagnostic procedures, assisting physician in therapeutic procedures, timely documentation, Clinical rounds with specialist clinicians she/he updating about patient progress is an important function. In addition to this nurse perform important administrative funtions, for example: interdepartmental coordination to facilitate insurance claims, and adherence to facility's accreditation standards etc.

AI enabled systems will augment nurses on a huge scale but will not replace them. The routine tasks like, preparing a patient unit, infection control practices, recording of vital signs, interpretation of critical values and alerting medical team. In future, nurses devote their time effectively towards nursing tasks which require human interaction and application of unique human skills like communication, empathy, and interacting with patients' family to alleviate their anxiety This is the core element of nursing. Hence in futures we can see AI enabled Robots as assistant nurses. And nurses are the decision makers to delegate work to AI enabled devices.

With the future practice of nursing in a technologically advanced AI enabled health care settings, it is question how human nurses can preserve the very true essence of nursing? Nurses should be involved in deciding which aspects of their practice can be delegated to technology and oversee the introduction of automated technology and artificial intelligence ensuring they practice on holistic care while embracing the artificial intelligence to achieve predictable patient outcomes.

Since the AI in healthcare has started coming up, variety of ethical implications come along too. Healthcare decisions exclusively made by the humans in the past, and the use of smart AIs to work would raise the issues of accountability, transparency and privacy. *Nurses know the difference between being "cared for" and "caring", Cared for him not just his body but his soul too.* Over the course of a nurse's shift, conflicts may come from differing opinions, personality clashes among health care team members and general stress with patients and family. Nurses with their level of emotional intelligence can resolve the conflict while keeping up the therapeutic relationships. So, it is fully clear that AI systems would not replace nurses and clinicians on large scales, but rather would strengthen their efforts in patient care. Over the time, health care workers effectively utilize their time, towards tasks and job designs that draw on unique human skills which include emotional elements like empathy, touch, persuasions and communication. Bringing the nurse leaders, nurse clinical specialists, nurse academicians and faculty, altogether is an intelligent way to keep pace with AI advancement while preserving the essence of nursing- the human element of this noble profession.

Given the potential of this technology for patient care and its impact on clinical providers, it is essential for nurses to have a basic understanding of AI concepts. Nurses at all levels and fields must update their knowledge adequately on AI technologies and contribute in the developing stages of AI creation which directly involved in nursing functions. Providing opportunities for continuing education and research is mandatory to update knowledge, attitude and skill sets to incorporate AI in nursing teams. Moving forward Nursing education with advanced new curriculum and nursing research will change to encompass a differentiated demand for professional nursing practice with robots in healthcare. Nursing educators in clinical as well as academic setups would be the leading faculty in teaching the new complex roles and responsibilities with the modern AI.

It is the time for the nurse leaders to be among the leaders and drivers of conversations around AI in health systems to preserve the true essence of Nursing profession.

Nurse's eyes have seen pain, hands have touched hearts, heart has felt brokenness, feet have walked a thousand miles all for patients. The trained nurse has become a blessing to the humanity, taking a place besides the physician and the priest. Nurses can use AI to enrich the nursing practice by making sound clinical judgements. I would end up saying that artificial intelligence would need to be complementary to each other and can never take away the true essence of nursing profession.

Capt. Indira Rani, with an outstanding academic background has proven her leadership in Nursing education and Administration in diverse arenas like Indian military hospitals and private health care setups. A former faculty in college of Nursing AFMC. Spear headed clinical training programs for nurses in prestigious corporate hospitals like Medanta Medicity, Escorts Heart Institute and Max Ventures. She has presented many scientific papers, organized and attended workshops, conferences at national and international forums. She has a keen eye for nursing research and completing PhD from IIHMR, Jaipur. Presently she is associated with Jaypee Hospital as Chief nursing.

> ## Nurse's eyes have seen pain, hands have touched hearts, heart has felt brokenness, feet have walked a thousand miles all for patients

InnoHEALTH

PERSONA

THEME

INNOVATIONS

WELL-BEING

IN FOCUS

RESEARCH

NEWSCOPE

THEME

AI and digital health - the key drivers of the next healthcare revolution

■ Dr. Cherian

Technology has been at the heart of the healthcare revolution for years. The evolution of the internet, mobile networks, smart devices, etc., have significantly changed the process of delivering patient care.

Gone are the days when people had to wait for hours for a 15-minute doctor consultation. Today, doctor consultation is just a matter of a phone call. Patients can now have physician consultations from the convenience of their homes. And this is just one example of how much technology has transformed healthcare. Digital health and AI is one of the hot topics that people within and outside of the healthcare industry have been talking about recently. This article discusses how AI and digital health is fuelling the next healthcare revolution while redefining healthcare delivery.

What is digital health?

Digital health is a multidisciplinary concept that uses communication and information technologies to help health systems deliver affordable and good-quality care. Digital health also enables healthcare institutions to be efficient and sustainable. Telehealth, mhealth, and wearable devices used to monitor patient status are some of the real-time examples of digital health.

AI or Artificial Intelligence

AI is one of the greatest breakthrough technologies that is changing our everyday life experiences, right from avoiding traffic and online shopping to hospital experiences.

How AI and digital health is transforming healthcare

#1. Optimized workflow scheduling and case prioritization

Workflow management and case prioritization are highly critical in the healthcare domain, as a patient's life is at stake. The sooner the diagnosis, the earlier the treatment. AI and ML algorithms can aid in optimizing workflow, prioritizing cases, and managing patient flow. Healthcare professionals can navigate hundreds of medical records and identify critical and non-critical cases within seconds using AI and ML algorithms. This will help physicians and radiologists to focus on critical cases on priority and create workflows and patient flows accordingly.

Furthermore, AI can also help in automating time-consuming manual tasks like patient data entry, medical claim scrubbing, etc. AI can also facilitate personalized responses to EHR searches.

#2. Quick drug discovery

It takes years, or even decades, to synthesize the appropriate drug for an illness. Chickenpox, for instance, was identified in the 1950s. But it took almost four decades to discover the right vaccine for the illness. With AI, drugs for contagious diseases can be discovered and synthesized within months, if not days.

A real-time example of how AI can speed up the drug discovery process is the recent pandemic, COVID-19. Almost within a year of the COVID-19 outburst, a relevant vaccine was developed and distributed across the globe with the help of AI.

#3. Quantitative imaging analysis and reporting

Have you ever got a different diagnosis from different doctors for the same problem?

If yes, then you probably might have thought which one of the diagnoses is correct. Such different diagnosis from different doctors is primarily due to subjective analysis and reporting.

Almost all medical images are studied in a subjective manner - based on the radiologist or physician's personal opinions, point of view, and interpretations - and have often led to diagnostic errors and incorrect/unnecessary treatment. The shortcomings of subjective analysis and reporting can be overcome only through quantitative imaging analysis and objective reporting.

Quantitative imaging analysis, as the name suggests, is the process of measuring all the elements in a medical image and comparing it against anatomical values to identify deformities and determine the severity of illness. Reports generated from quantitative imaging analysis are known as objective reports and hold detailed information about every element of the scanned body part, including their measurements.

> ## AI can ease the process of detecting invalid claims and accelerate the pace of claim - assessments, processing, approval, and payment through automation.

However, performing quantitative imaging analysis and generating objective reports is a time-consuming task, which is why most health centers are unable to perform them. But AI can help health institutions perform quantitative imaging analysis quickly and accurately.

#4. Robot-assisted surgery & Virtual nursing assistant

Robot-assisted surgery enabled by AI can help surgeons to perform complex procedures with increased precision, flexibility, and control as compared to conventional techniques. Robot-assisted surgery is gaining more prominence in healthcare and the market size of robotic surgery is expected to cross $7 billion by 2025.

Similar to robot-assisted surgery, AI-powered robots can serve as virtual assistants to provide 24/7 support for chronic conditions, monitor patient status, check medication intake, and schedule doctors' appointments, just the way a nurse practitioner would do.

#5. Fraud detection

AI can help in ensuring the security of patient data, which is highly sensitive and at the heart of providing secured and personalized patient care. Also, AI can ease the process of detecting invalid claims and accelerate the pace of claim - assessments, processing, approval, and payment through automation.

#6. Precision medicine

Precision medicine, also known as personalized medicine, is a medical model where healthcare is customized according to the genetics, lifestyle, and environment of a person. Precision medicine is the exact opposite of the one-drug-fits-all medical model.

Numerous studies and experiments have been carried out to understand the potential of AI in precision medicine. And in most cases, AI has been able to classify and solve precision medicine problems in aspects like disease detection and prediction, treatment optimization, etc.

Most healthcare providers and professionals believe that AI will take precision medicine to the next level and improve the levels of accuracy and prediction in patient outcomes. They also believe that AI can help in making precision medicine affordable and available to people from rural areas.

AI and digital health are not only beneficial for patients but also providers. Many stakeholders and industry leaders posit that the digital health and AI market is growing with a great potential for ROI. According to a report, AI adoption can help US healthcare providers save nearly USD 150 billion by 2025. Not just that, with medical imaging data growing abundantly and projected to double by the next decade, AI will be the only solution to handle the healthcare data explosion.

Studies state that the growth of AI in healthcare will be driven by the increasing volume of data. Matter of fact, numerous health systems have started embracing AI applications not just in patient-facing clinical processes, but also in diagnostic workflows and tasks associated with medical images. According to a KPMG survey, 89% of respondents stated that AI is already enhancing the efficiency of their systems.

Many health tech firms are moving from cancer diagnosis and focusing on creating AI algorithms for other health issues like chronic neck and back pain. Synapsica, for instance, is a leading AI health tech firm that has successfully built AI tools for spine problems and injuries. Using Synapsica's AI tools, Spindle and SpindleX, radiologists can perform quantitative imaging analysis and generate objective reports within minutes.

The healthcare industry is one of those industries that transform almost every decade. The current healthcare industry is highly different from what it was a decade ago and will be highly different from what it is now in the next decade. And AI and digital health will be the key drivers of the next healthcare revolution.

> ## Digital health and AI is one of the hot topics that people within and outside of the healthcare industry have been talking about recently.

> ## According to a report, AI adoption can help US healthcare providers save nearly USD 150 billion by 2025.

Dr. Cherian is presently associated with AIIMS, NewDelhi. He is leading all medical operations, research and product vision for Artificial Intelligence. He has established many startup teams for pan-India operations.

PERSONA

THEME

INNOVATIONS

WELL-BEING

IN FOCUS

RESEARCH

NEWSCOPE

▶ **INNOVATIONS**

URINARY INCONTINANCE IS 2nd BIGGEST REASON AMONGST ELDERLY FOR LIMITED MOBILITY AND 3rd TOPMOST REASON FOR MISSING SOCIAL GATHERINGS

In India, Census data and National Statistical Office (NSO) shows that the elderly population here is growing at a much faster rate than the general population and is likely to grow at over 40% in the coming decade in comparison to the expected growth of just 8.4% in overall population.as per census in 2011 there were 103.8 million elderly persons which rose to 138 million in 2021. Also presently India has an 8.6% global elderly population that is likely to rise to 19% by 2050.This makes it imperative for the younger members of the family to take care of and pay more attention to the social, psychological and physical needs of the elderly.

Recently PAN Healthcare, the makers of Liberty Adult Pants conducted Liberty of Life of Older People survey 2022 amongst 10,000 elderly participants across ten Indian cities of Mumbai, Kolkata, Bangalore, New Delhi, Hyderabad, Lucknow, Chennai, Patna, Pune and Ahmedabad. Almost 65.3%, which is nearly two-third of elderly people in India,

think that the increasing use of technology and mobile phones has impacted their interactions with the younger kids. 72.5 % of the participants said that people in their generation used to spend more time with the elders in their family. Almost 12% of the elderly participants said they do not pursue exercises, yoga, meditation, walking or a conscious diet to remain fit and healthy which makes it even more pressing for the younger population to take out time to support them.

The survey showed that 36.2% felt lonely sometimes, 19.4% felt sad most of the time and 16.2% experienced being lonely most of the time while another 42.1% were sad some of the time, another 41.6% lost hope at some point and 16.8% felt hopeless most of the time. 51% of the respondents cited they have health problems which caused difficulty in getting around and doing things by themselves. Joint and body pain (58.1%) is by far the biggest reason that limits mobility in the elderly. The second biggest limiting factor was revealed to be urinary incontinence being reported in 18% of the respondents above 65 years of age who felt restricted from moving around freely. 8.4% of them reported

tiredness and forgetfulness. 16.2% elderly said they had to rush to the washroom to pee during the day or night most of the time in the last 30 days, while another 31.6% had to take an urgent unexpected leak sometimes. Elderly who spilled urine on their clothes accidently atleast once in the last week, half of whom did so daily was reported in 27.3%.

Urinary incontinence is bound to increase with increasing growth in the population of elderly. This is a problem that the elderly feel embarrassed to disclose to their families and often perceive it as a sign of losing self-reliance. Therefore it is time to act now in the welfare of the elders wherein the families must spend time with the older people to see if they need any support and are too shy to ask for it. The present generation also needs to understand the benefits offered by modern methods to manage urinary incontinence like adult diapers which can improve quality of life, happiness, feelings of positivity and self-esteem among elders.

DEEP LEARNING AND ARTIFICIAL INTELLIGENCE TO ASSIST DIAGNOSING BIRTH DEFECTS

Today there is hardly any area left untouched by Artificial Intelligence (AI) and researchers all over the world are making efforts to use and apply AI to every point which touches humans eventually. One such new proof-of-concept research has been recently conducted by a team from the University of Ottawa, Canada who have pioneered the use of a novel deep learning model as an assisting tool for the accurate and speedy reading of ultrasound images. In this groundbreaking research, the team has used Artificial Intelligence-based learning as a tool for the early detection of birth defects. As defined in the Scientific Journal Plos One, the purpose of the research was to show that deep-learning architecture has the potential to make possible reliable and early identification of cystic hygroma from first trimester ultrasound scans.

Cystic hygroma, though a rare but potentially life-threatening disorder, is an embryonic condition which causes the lymphatic vascular system to develop abnormally. It causes fluid swelling around the head and neck. This abnormal condition has been documented in approximately 1 in 800 pregnancies and 1 in 8000 live births.

It is known to all that ultrasound is of utmost importance in the observation of foetal growth and development and involuntary foetal movements, small foetal structures and poor quality of image make neonatal image acquisition and interpretation challenging.

The research team in this case wanted to test how well AI-driven pattern recognition could do the job. As per the team their demonstration was made in the field of ultrasound but we are able to use the same tools for image classification and identification with a high specificity and sensitivity. With further development this approach may be applied to a range of other anomalies of the fetus typically identified by ultrasonography.

SOURCE: *www.business-standard.com*

WARNING LABELS ON FOOD ITEMS - NEED OF THE HOUR

A warning label is an instant recognition by consumers of unhealthy foods and consumers must become a stakeholder for decision-making about choosing healthy foods. With this idea in mind recently in early 2022 a national study which was undertaken in public interest was conducted by leading social scientists from Indian Institute of Population Sciences has revealed that consumers in India are ready for warning labels on the front of foods high in nutrients of concern. This study is of relevance today as FSSAI has once again recently initiated the process of drafting a Front-of-page Label (FOPL) regulation. Doctors, public health experts and consumer right groups have warned that India must rely on evidence and science to adopt an effective label design. This randomized control field experiment which was carried out in six Indian states reckoned what top doctors and public health experts have been saying for quite some time now which is simple, negative warning labels that clearly identify unhealthy products will work best in reversing hypertension, diabetes and obesity health crisis.

The scientists are convinced that this study is scientific and timely as for the first time people have spoken, corroborating the science that we have known all along. In this experiment nearly 2900 adults in rural and urban areas of Odisha, Uttar Pradesh, Karnataka, Gujarat, New Delhi and Assam were asked to view a series of unhealthy products displaying one of five labels that are prevalent-multiple traffic light label which is a system preferred by countries like the United Kingdom, Guideline Daily Amounts (GDA) and Health Star Rating (HSR) which are the labels favoured by the industry and Warning Labels which are considered a global gold standard. Warning labels came out to be the top scorer on both primary and secondary outcomes. Warning labels were the only FOPL which led to a significant change in consumer purchasing decisions toward healthier products. It showed nutrition information most effectively and past evidence shows that if the message is delivered well it leads to behavioral change. Simple, visually clicking, negative warning labels will convey information about the healthfulness of a product and at the same time will influence purchasers' buying decisions. The researchers believe that this important study will influence FSSAI's decision as it considers an FOPL that is best for India.

It has been observed that in the last 13 years, consumption of ultra-processed snacks by Indians has gone up almost 40 times and this dietary shift has caused a massive increase in diet-related diseases. Nearly one out of 4 adults are classified as obese or overweight and without any strict interventions the prevalence of obesity is expected to more than triple by 2040. So need of the hour is a FOPL backed by scientific nutrient thresholds such as the WHO SEARO Nutrient Profile Model (NPM) which will be a critical intervention to effectively move consumers towards healthier foods and drinks and also push the industry to improve the nutritional profile of the products they sell.

This study by IIPS has supported the recently released findings of a pan India observational study done by All India Institute of Medical Sciences (AIIMS) in which high-in style is the clear winner that emerged as 'simple warning labels'. Thus doctors and social scientists endorse that this is the time to act and adopt Warning Label Style FOPL which is universally acknowledged and scientifically proved as the most efficient and effective. This point is further emphasized as India is facing an increase in cases of cardiovascular diseases, diabetes, cancer and other noncommunicable diseases (NCDs) claiming several lives on a daily basis. Studies show that in Chile, within 18 months of the Government implementing the warning label law, there was 24% reduction in purchases of sugar-sweetened beverages and 27% of calories, sugar and sodium from unhealthy foods and beverages. In Australia where HSR was implemented, even after four years of its implementation, studies showed minimal impact on the purchase and consumption of unhealthy foods. So India's medical and scientific fraternity have put their vote for 'warning labels' on unhealthy junk and packaged food.

SOURCE: *www.dailypioneer.com*

LIFESTYLE-MAJOR CAUSE OF CARDIAC ISSUES AMONGST INDIAN YOUTH

India is facing a major crisis of noncommunicable diseases (NCDs), the majority of which are caused by obesity, hypertension, overweight and metabolic disorders. There is a rise in cardiovascular diseases majorly due to obesity and hypertension. Recently there has been a dramatic rise in the frequency of cardiac arrest in the Indian population particularly among adolescents. So it is very important to educate the youth of

today on how important it is to lead a healthy life and prevent the occurrence of such life-threatening medical conditions.

Keeping this mission in mind, India Health Link (IHL) in collaboration with HEAL Foundation recently conducted the 'Indian Hearts Lacking Care' (IHL Care) study on 1461 young people from four Indian metropolises of Delhi, Bangalore, Chennai and Mumbai. Of the

total participants 23% were females and 77% were males. Participants' sample diagnostic test results were acquired from Health ATMs or Digital Kiosks in these four cities. A random sample strategy was used in data collection and respondent gender, age, demographics, BMI class, BP class and SPO2 levels were among the test criteria.

The study has clearly brought out there is a strong correlation between BMI scores and BP risk wherein more the BMI scores, higher the risk of BP. An overweight or obese BMI increases BP risk by 41%. High BP is observed in Delhi (23%) and Mumbai (15%). The high BP is majorly seen in men with upto 30% in Delhi and almost similar in Mumbai. 30% of men in Delhi and women in Mumbai are more prone to high BP while 50% of men in Bangalore and 25% of women in Mumbai are prone to BP risk. It is also seen that BP risk as well as high BP is more commonly found in men than in women. Majority of obese or overweight people have high BP (30%) or have BP risk (nearly 53%). Youth in the age group of 26-40 years in Delhi are at high risk of cardiovascular diseases due to twin trouble of obesity and hypertension.

Sedentary lifestyles and working habits have taken a toll on youth, exposing them to an increased risk of having cardiovascular issues. So the urgent need is to move from heart illness to heart wellness which can be facilitated by preventive and predictive cardiology. Regular preventive screening must be done for the youth through technology-driven care to bring about wellness among them.

Also the importance of healthy, nutritional and wholesome diet needs to be talked about and awareness on this aspect needs to reach youth both residing in rural and urban India.

SOURCE: *www.newindianexpress.com*

GLENMARK LAUNCHES MINYM GEL TO TREAT SEVERE ACNE

Approximately 80% of people in India are affected by acne between the onset of puberty and 30 years of age. It is estimated that by the end of 2026 the number of people affected by acne will reach around 23 million at a compound annual growth rate. Acne vulgaris is one of the most common diseases affecting humanity and its impact on quality of life is important. Mumbai (India)-based, Glenmark Pharmaceuticals has taken note of this problem and has lately developed MINYM which is India's first topical Minocycline 4% gel for the treatment of moderate to severe acne. MINYM gel has been developed to address the rising issues in the treatment of acne and the USP of this product lies in the fact that it can be used in patients above the age of 9 years.

This is an effective antimicrobial gel which has anti-inflammatory properties and also has the lowest MIC9O which implies (minimal inhibitory concentration at which it stops or prevents visible growth of 90% of bacteria isolates) among available topical antibacterial formulations in the Indian market today. The inspiration for the launch of MINYM lies in a study conducted by Glenmark in 2020 on the prevalence of acne in India. The study showed that more than 72% of the patients were in the adolescent group and 27% were in the adult group. It was observed that 45% of the patients were males and 55% patients were females.

SOURCE: *www.financialexpress.com*

PERSONA

THEME

INNOVATIONS

WELL-BEING

IN FOCUS

RESEARCH

NEWSCOPE

ARTIFICIAL INTELLIGENCE-BASED WEBSITE FOR DYSLEXIA
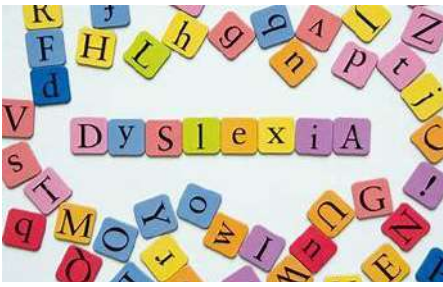
According to the Department of Biotechnology, the incidence of dyslexia in India is estimated around 10% and almost 35 million children in India are thought to have this learning disability. Dyslexia is the most common of all neuro-cognitive disorders and nearly the same percentage of males and females have dyslexia. Keeping this medical condition in mind, All India Institute of Medical Sciences, India has recently launched an Artificial Intelligence (AI)- based website by the name of readable.com for dyslexia. The institute has come up with this in-house website to enable children diagnosed with dyslexia to read, write and learn normally. This web portal was launched by the Department of Child Neurology to aid and assist dyslexic kids who have a neurological disease that affects learning, including oral and written language, making it difficult to grasp or read words and/or numbers.

Before the site was launched, a study was conducted on 44 children who had undergone functional magnetic resonance imaging (F-MRI) while using the application. The results revealed that a majority of the children had success in learning languages and words just like normal children. There are 8 modules in the application which covers different aspects of learning languages presented in a creative way which will help kids read, write and explain like normal children through artificial intelligence.

AIIMS and Indian Institute of Technology (IIT) Delhi have been collaborative partners in developing this innovative application.

SOURCE: *www.economictimes.com*

INDIA RANKS 3ʳᵈ IN START-UP ECOSYSTEM AND UNICORNS

India ranks globally 3rd in the startup ecosystem and also in terms of the number of unicorns. As per the latest data, there are currently 105 unicorns, out of which 44 were born in 2021 and 19 in 2022.

Union Minister of State (Independent Charge) Science & Technology; Minister of State (Independent Charge) Earth Sciences; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh disclosed this while delivering the keynote address at "DST StartUp Utsav" at Dr. Ambedkar International Centre here.

The Minister said the current decade 2021-30 is expected to bring transformational changes to Indian science, technology, and innovation (STI). Under Prime Minister Narendra Modi, India has increased the gross expenditure on R&D (GERD) more than three times in the last few years and as per the latest data, India has over 5 lakh R&D personnel, a number that has shown a 40-50% increase in the last eight years.

In the last eight years, Dr. Singh said, women's participation in extramural R&D has also doubled, and now India occupies 3rd rank in terms of the number of PhDs awarded in science and engineering (S&E) after the USA and China. With the shifting global powers and technology becoming the epicentre of international engagements and rulemaking, India under Modi is living up to global benchmarks.

Recalling Prime Minister Modi's launch of Startup India from the ramparts of Red Fort in 2015, Dr Jitendra Singh said, India in its 75th year of Independence is now home to as many as 75,000 startups. His special focus on science, technology, and innovation has fired the imagination of the youth in the country to innovate and solve problems with new ideas.

He also pointed out that India's startups today are not limited to only metros or big cities and said that 49 percent of the start-ups are from tier-2 and tier-3 cities. The country has startups emerging in the fields like IT, agriculture, aviation, education, energy, health, and space sectors.

Dr Jitendra Singh released four publications featuring promising start-ups under various components of the Department of Science and Technology's NIDHI programme including the flagship Technology Business Incubator (TBI) scheme and a coffee table book of 51 CAWACH-funded start-ups.

Further, the Minister noted that India ranks third among the most attractive investment destinations for technology transactions in the world as it has a strong focus on science and technology. India is among the topmost countries in the world in the field of scientific research, positioned as one of the top five nations in the field of space exploration, and also actively engaged in emerging technologies such as quantum technologies, and artificial intelligence.

The Centre for Augmenting WAR with COVID-19 Health Crisis (CAWACH) program carved out in a record time by DST just when Covid hit, was the first program by any department of the Government of India to support startups working on Covid products and solutions. The overall impact and outcome of DST's program on innovation and entrepreneurship have been significant: promoting 160 incubators, nurturing 12,000 startups including 1627 women-led startups, and generating 1,31,648 jobs. Besides, he informed that India has made a massive jump in its global ranking in the Global Innovation Index (GII) from 81st in the year 2015 to 46th in 2021 among 130 economies of the world. India ranks 2nd among 34 lower and middle-income economies and 1st among 10 Central and Southern Asian economies in terms of GII. The consistent improvement in the GII ranking is owing to the immense knowledge capital, the vibrant start-up ecosystem, and some outstanding work done by the public and private research organisations, the Minister added.

Secretary, DST, Dr. S. Chandrasekhar said, India in recent 7-8 years made unprecedented progress in STI areas and there has been a significant rise in the country's overall performance in terms of the number of publications (globally ranked 3rd now from 6th in 2013 based on National Science Foundation database), patents (globally ranked 9th in terms of resident patent filing) and quality of research publications (globally ranked 9th now from 13th in 2013). He pointed out that the NIDHI program of DST has swiftly processed the much-needed support to start-ups, catalysing the active support of business incubators and other business support providers.

75 impactful incubated startups supported under NIDHI from across the country from various sectors were showcased in 50 physical as well as 25 digital modes in the DST Startup Expo. Five startups from NM-ICPS Technology Innovation Hubs were also part of the 50 stalls of Startups.

SOURCE: *India Science Wire*

WHERE DOES YOUR TRASH GO?
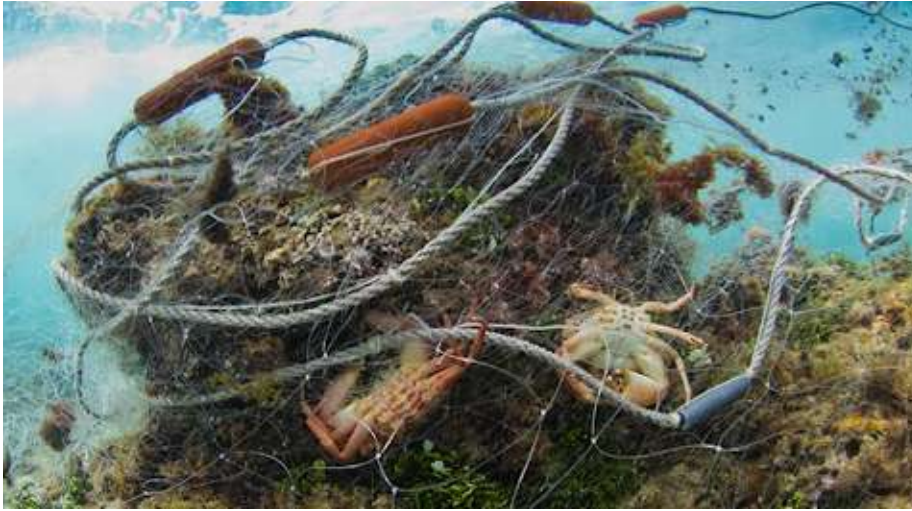
Litter is one of the most pervasive and fastest-growing anthropogenic alterations of the World. Coastal litter degrades the quality and health of the oceans by damaging coastal and marine habitats and harming marine life. According to WorldAtlas.com, plastic is one of the most common litters found on beaches. International Coastal Cleanup (ICC) reported to have commonly found Cigarette Butts (CBs), food wrappers, plastic bottles and bottle caps, plastic bags, plastic beverage lids, straw and stirrers, and plastic and foam take-out containers in all coastlines sampled in 2017.

During the 2020 global campaign to clean beaches, volunteers working in 122 countries collected 8,066,072 litter items, of which 964,521 (11%) were CBs. We all know that plastic litter is hazardous for marine life. Minuscule pieces of plastics or microplastics have been found in many sea life, including fish and drinking water, creating a poisonous food chain that eventually affects humans.

It is said that earth has one big ocean with many features. An interconnected circulation system around the oceans is driven by the force of earth's rotation, wind, the sun, etc. The 'global ocean conveyor belt' carries litter from one sea to the other. Therefore, it is imperative to clean the entire coastline of all the countries to get the benefits of the cleaning activities.

Non-buoyant or non-persistent litter items, such as metal, glass, paper, textile, organic litter etc., come mostly through direct litter dumping. Oil Spill Prevention, Administration and Response (OSPAR) was started in 1972 with the Oslo Convention against dumping. It was later expanded by the Paris Convention of 1974 to cover land-based sources of marine pollution and the offshore industry. It says, litter composition indicates specific uses and activities such as tourist activities, fishing, and dumping.

Experts define marine litter as "all anthropogenic, manufactured, or processed solid items discarded, disposed of, or abandoned in the marine environment, including all such material brought indirectly to the ocean by rivers, sewage discharge, waves, tides, currents, and winds." Sustainable Development Goal 14 (SDG14) talks about conserve and sustainably using the oceans, seas, and marine resources for sustainable development. Its Target 14.1 says, "By 2025, prevent and significantly reduce marine pollution of all kinds, particularly from land-based activities, including marine debris and nutrient pollution."

P. Kaladharan and others, in an article published by Journal of the Marine Biological Association of India, informed that Odisha coast had the lowest (0.31 g/m2) quantity of beach litter and the Goa coast (205.75 g/m2) had the highest. Andamans and Lakshadweep recorded values higher than Kerala, Andhra Pradesh, Tamil Nadu, Odisha and West Bengal. A high volume of Electronic wastes, such as parts of circuit chips, diodes, computer and mobile hardware parts, CDs, parts of battery-operated toys, button cells, etc. were found in Andhra Pradesh and Andamans. When landfills near coastal areas are not properly fenced, or buffer zones around the site are not maintained, litters from the site easily reach the coast and subsequently the sea. Litter in coastal and marine environments generates a loss of both direct and indirect economic benefits to society. Many instances of death of marine creatures by ingestion of litter (mainly plastics), have been reported. Alien and invasive species are often transported from one area to another through the litter. Lost and discarded fishing gear crush or alter marine-life habitats like coral reefs.

Plastic medical waste like face masks, gloves, bags, food containers, bottles, etc. accumulated in hospitals and transported along streets, end up in many coastal and marine environments.

No single solution exists to cope with the litter issue. Quoting a report prepared by National Centre for Coastal Research (NCCR), Chennai, Dr. Jitendra Singh, Union Minister of State (Ind. Charge) Science & Technology; (Ind. Charge) Earth Sciences; Minister of State PMO, DoPT, Atomic Energy, Space; wrote in a recent article that the maximum litter accumulation occurs on the backshore than in the inter-tidal zone.

The ongoing 'Swachh Sagar Surakshit Sagar' campaign is expected to raise awareness among masses about how plastic usage is destroying our marine life. Likewise, litter pollution can only be overcome with a unified and consistent approach.

SOURCE: *India Science Wire*

Compiled by:

Dr. Avantika Batish, working as the Director Strategy and Healthcare at International Health Emergency Learning and Preparedness. She is also a guest faculty for MBA (HR) and MBA Healthcare Management at various B-Schools and is a soft skills trainer.

▶ WELL BEING

Obesity – A Global Challenge in Emergency and Tertiary Care

■ **Dr. Mahan Shome**

Obesity is one of the leading problems that phcians and technicians face in emergency and tertiary care set up. It not only leads to a number of deadly diseases but also makes the patient management awful for the doctor. This article will enlighten the facts how obesity is a curse to the patient as well as the attending physician in an emergency set up, studies regarding the subject as well as how we can overcome the situation.

Obesity is one of the most common morbid problems in the modern era. It has become a part and parcel of our society. The problem is a lot bigger than it seems to be. It's about survival and not merely related to fitness only. Obesity is a condition that predisposes an individual to a number of diseases , worsens them and even hinders recovery. It is one of the biggest enemies

the emergency department doctors face. It delays diagnosis of a condition, closes a few doors of treatment , carries a number of co-morbidities with it and what not !

In order to counter a problem we must first know what is obesity or overweight? Grossly, accumulation of excessive fat is called obesity but it has a compact quantifiable definition. First we need to have an idea about Body Mass Index i.e Body Weight(KG) / Body Surface Area(m2) A body mass index (BMI) over 25 is considered overweight, and over 30 is obese. The numbers coming up are going to shock you even more. In 2017 , over 4 million people were thrown into the mouth of death just because of this demon called obesity. Such a huge number indicates that the problem has already become an epidemic and not merely a sporadic issue. This monster

affects every age group and economical section of the society. From 1975 to 2016, within the span of 40 years the prevalence of overweight or obesity among children and adolescents of age group 5–19 years has increased more than four-fold from 4% to 18% globally. Obesity and Underweight are the two sides of the coin called malnutrition! And the demon of obesity outnumbering the burden of underweight population globally except in some low economic status countries. Slowly but steadily middle income countries, developing ones have taken over the lion's share of the disease burden. Overweight and obesity are major risk factors for a number of chronic diseases, including cardiovascular diseases such as hypertension, Angina and cerebrovascular diseases such as stroke, which ultimately lead to disastrous outcomes in most of the cases.

PERSONA

THEME

INNOVATIONS

WELL-BEING

IN FOCUS

RESEARCH

NEWSCOPE

> **Actual challenge is in diagnosing and managing these patients in emergency set up. Auscultation is one of the most primary physical examination in which findings are going to be altered in a obese patient.**

Obesity never comes alone. It brings another enemy of the healthcare system called Diabetes Mellitus and its associated conditions, including retinopathy, nephropathy, neuropathy all are clearly on rise having the helping hand in the name of obesity. Rates of diabetes have quadrupled since around the world since 1980.Shockingly the proportion of adults being overweight or obese has increased between 1980 and 2013 from about 29 to 37% in men and from about 30 to 38% in women. Estimated that in 2013, more than 2 billion people in the world were overweight or obese and about 671 million of them were obese. Carrying excess weight can lead to musculoskeletal disorders including osteoarthritis as excessive weight brings about the degenerative changes earlier than normal. Obesity is also associated with some cancers, including endometrial, breast, ovarian, prostate, Non Alcoholic Fatty Liver Disease, Cholelithiasis, kidney and colon. Increasing BMI leads to proportional increase in fatality rates of all these non communicable diseases.

The emergency department is where two broken pieces of healthcare meet: obesity and poor access to care. Two recent studies illustrate the results of a phenomenon that weight bias researchers have documented for some time. Overweight and obese people often receive negligence, mocking from some of the health care professionals. As a result, they avoid seeking medical care and frequently switch providers. Numerous comorbid conditions have been associated with obesity, including type 2 diabetes, hypertension, hypercholesterolemia, hypertriglyceridemia, and nonalcoholic fatty liver disease. As a result of these comorbidities, the medical costs directly related to obesity are difficult to determine, but a conservative estimate would place the healthcare burden for obesity at

approximately $150 billion per year in the United States. Such a mammoth amount actually breaks the economic backbone of a developing country. Increase in mortality is not directly due to obesity but due to the associated conditions it brings. Obese patients present challenging and complex issues in medical and surgical intensive care units. In the current debate over healthcare reform in the United States, no proposed solution can reasonably ignore or minimize the role that obesity plays with regard to economic and health consequences. Actual challenge is in diagnosing and managing these patients in emergency set up. Auscultation is one of the most primary physical examination in which findings are going to be altered in a obese patient. Most of the times in emergency set up doctors miss important auscultatory findings in these patients that causes the diagnostic delay. ABGs play a massive role in management of a patient coming to the emergency department. In this case the radial artery is the one from which blood is drawn. In case of obese patients, it's a troublesome job to puncture the radial artery correctly. Securing a central venous line or even putting up a peripheral cannula in some patient needs a mammoth effort if he or she is too obese. While diagnosing a condition radiological limitations and adjustments are also of huge concern. Added on to this ETT and Foley catheter placement is quite difficult. Anesthetic dose adjustment is also a major concern in obese patients and may even lead to disasters if not done properly. Transportation of patients as well as equipments are also a big hazard. Basically every step needs to be placed very carefully in obese patients while managing in emergency set up and a tiny mistake may cost the patients life as well as lead to medico-legal issues.

Such a huge set back in the form of obesity in emergency and tertiary care

units needs to be controlled. The only way to decrease obesity is building up awareness among the common people. Government, health care centres have to take up the responsibility to make them understand how deadly obesity can be. Regular counselling in health care centres advertisements can reduce the burden of obese patients on society. Society should be made aware of the necessity of physical exercise and healthy food. But these all are long term processes. Obesity is a global problem. And it's the high time for the physicians to come up with some plan that helps them manage the obese patients in emergency set up. Dopplar Ultrasound can be a very good option while managing a obese patient in a emergency care unit. Using the technique we can get access to veins, arteries very easily. This aids in quick management and avoids multiple pricks to the patient. In spite of using fixed non-movable beds , if we use beds with wheels, it will be a lot easier to take patients to the CT room or MRI room. Placing them on the machine will remain an issue though. Portable x-ray devices are a good advancements in medical science that helps to decrease the need of carrying the patient always. Still there will be some unavoidable circumstances in spite of all these where transportation of the patient is mandatory i.e operation theatre etc. It is the high time for the national and international health agencies to publish proper guidelines to manage obese patients in emergency set up. Proper infrastructure and trained staff in every hospital will ease the cause. It's a global issue and every possible effort should be made to improve the quality of the medical support we can provide to obese people in emergency set up. With so much advancement and innovations coming up in health care system we can surely hope that this global problem will be solved soon.

> **Obesity is a global problem. And it's the high time for the physicians to come up with some plan that helps them manage the obese patients in emergency set up.**

Dr. Mahan Shome likes to study about the recent advancements in the field of medicine that might help mankind in future. Writing is his passion. He hails from Howrah, West Bengal.

The Real Definition, History and Principle Behind YOGA

■ **Ravi Mishra**

PERSONA

THEME

INNOVATIONS

WELL-BEING

IN FOCUS

RESEARCH

NEWSCOPE

The word YOGA is derived from the Sanskrit (The Ancient Indian Language) YOG/YUJ meaning "to yoke," or "to unite". The practice aims to create union between body, mind and spirit, as well as between the individual self and universal consciousness. Such a union tends to neutralize ego-driven thoughts, Stabilize mind and behaviours, creating a sense of spiritual awakening.

There are Different types of YOGA like Raaj Yoga (Ashtanga Yoga), Hath Yoga etc, and each of them have their own limbs/Components. For example limbs/Components of Raaj Yoga (Ashtang Yog) are:-
• YAM (Moral Code)
• NIAYAM (Disciplines),
• ASAN (Yoga Postures),
• PRANAYAAM (Control over breathing),
• PRATYAHAAR (Withdrawal of Senses),
• DHARANA (Concentration),
• DHYAAN (Meditation),
• SAMADHI (Salvation/ Super Spiritual Position)

There are Total 8 limbs of Ashtang Yog. In Sanskrit ``Ashta + Anga" is ashtanga. "Ashta '' means Eight and "Anga" is limbs so it means Eight Limbs. These limbs are actually the steps to reach the super spiritual awakening related to that particular type of yoga. But we can follow only some of the limbs of any type of yoga to live a healthy and peaceful life like ASAN, PRANAYAAM, and MEDITATION. This is what peoples are doing.

> ❝ **These limbs are actually the steps to reach the super spiritual awakening related to that particular type of yoga.**

Ayurveda this body is made up of 5 elements – Space, Air, Water, Earth and Fire.

The practice of Yoga started with the ancient Indian civilization. The science of yoga has thousands of years ago. Shiva, The Hindu GOD, called the Aadi Yogi (Means the first one or the initiator who achieved the super spirituality) OR Mahayogi (who achieved the biggest/Highest level of all types of YOGA).

Adiyogi poured his knowledge into the legendary Saptarishi which means "seven sages". These sages then carried this science to different parts of the world. Later On the great Sage Patanjali systematized and codified the existing practices of Yoga, its meaning and its related knowledge through his Yoga Sutras known as "Patanjali Yog Sutra". After Patanjali, many Sages contributed greatly for the preservation and development of this science through their well-documented practices and literature.

Nowadays many people follow Yoga-Posture (ASAN) and PRANAYAAM (Breathing Exercise) to keep themselves healthy. It is true and it works. According to YOGA and AYURDEDA (Ancient Indian Medical Science) you cannot reach a super spiritual position without having a healthy body and a healthy mind. As we all heard, ``A sound mind lives in a sound body". So these ASAN and PRANAYAAM help you to heal your disease, Stabilize mind and senses and help you to live a healthy life.

The ancient Indian literature VEDA including YOGA and Ayurveda given the concept as:- "Yatha pinde tatha brahmande, yatha brahmande tatha pinde"

The translation of this quote is as "All that is in the universe is within you, and All that is within you is in the universe. Means your body is a miniature universe. Also as per the Ayurveda this body is made up of 5 elements — Space, Air, Water, Earth and Fire.

It means YOGA and ARYURVEDA help us to connect with nature and with the universe. The simple concept is:- if you keep in touch with nature, you will stay healthy.

There are many things that we should know in depth before practicing and teaching YOGA to others so that we can achieve all the benefits of this great science.

Ravi Mishra is an Instrumentation and control engineer. He has done research on ancient Indian literature, Science and History including Astrology, Ayurveda, Yoga etc for many years.

For a Happy, Healthy and Cheerful Life, Yoga is One of the Best Options

■ Sopan Gedam

Have you ever contemplated that when you are healthy and fit, you feel more happy and content in your life? However, today's varying lifestyle could be a major hindrance in keeping yourself healthy. Here, Yoga could be one of the best options with which you can make your life healthy and joyful.

Yoga has a lot to offer at every stage of your life. Whether you are a working professional, housewife, kid, student, pregnant woman, retired person or a senior citizen, life seems the best if you do yoga with dedication. Yoga is indeed a precious gift to mankind that brings mind and body in harmony and thereby helps you to lead a healthy lifestyle.

You just have to put in at least 15-30 minutes of your daily busy life to perform yoga and you will be surprised to see your life at the best level. Daily practice of Yoga mainly involves yoga stretches, suryanamaskar, different yoga poses, pranayama (breathing techniques) and meditation.

You can do yoga at your home or join yoga classes for perfection and commitment. It's always a good idea to learn yoga practically as well as theoretically from the basics itself for a longer and healthier life.

Well, according to a market research study Yoga market and Yoga mat market is expected to grow in the near future which suggests that more and more people are choosing yoga as a part of their healthy lifestyle.

So, what are the health benefits that you can attain with daily yoga practice? Let's take a look;

• **Yoga enhances your efficiency:**

Regular practice of yoga and meditation helps calm your mind and makes you more focused. With improved concentration, you can work faster with more efficiency and creativity. Just invest your 30 minutes every day in the morning for body stretching, some active yoga postures, pranayama and meditation and you will experience that your whole day has become more energetic and productive.

• **It increases energy level:**

High energy levels are always required to be efficient throughout the day, especially for working professionals and housewives. And this can be achieved with a few minutes of yoga practice. Yoga asnas perks up your overall stamina and energy levels as well as keeps you fresh for a whole day. When it comes to providing you with extra energy, yoga poses such as tree pose and cobra pose just work great.

> **Regular practice of yoga and meditation helps calm your mind and makes you more focused.**

PERSONA
THEME
INNOVATIONS
WELL-BEING
IN FOCUS
RESEARCH
NEWSCOPE

■ Yoga asnas, breathing techniques (pranayama) and meditation
■ together can help in reducing stress from your life.

Yoga improves fitness:

Regular yoga practice leads to the improvement in your fitness levels in a holistic way. It can also provide you with the benefits of gym exercise such as cardio and strength training. And thus you can achieve fitness with yoga too if not willing to join a gym for the same. Trending yoga styles like aerial yoga seems to be the best for fitness and overall health.

It is good to increase strength, flexibility and posture:

While performing Yoga asanas, body muscles get stretched that tone your body muscles and enhance your posture. All this helps to reduce body pains and aches that are originated due to wrong posture. Yoga poses including planks and downward facing dogs are good options to improve your flexibility, strength and personality. Moreover, it's good to have increased strength and flexibility for expecting mothers as it helps for a better childbirth. Pregnant women can look for prenatal yoga training that offers many health benefits for both baby and mother to be!

Yoga boosts concentration and thinking ability:

Yoga and meditation makes you concentrate on your breathing pattern that makes your mind calm and gives you a feeling of relaxation. Relaxed mind can enhance your cognitive functions, helps to think in a positive, transparent, and an organised way. It also boosts your self-confidence and enthusiasm. Thus, yoga gives a lot of benefits for working professionals and kids who regularly perform yoga.

It can help lose weight:

If you want to live a healthy life, you must have a healthy body weight. However, extra weight is a big concern for people from almost all ages. Daily yoga practice makes your metabolic system stronger and helps in burning body fat that reduces body weight. Besides, yoga aids in balancing the hormonal levels in the body that are associated with the appetite. So, you feel less hungry and thereby stay away from overeating and extra weight gain.

Yoga reduces stress levels:

Stress caused by several reasons can be experienced at any stage of your life that affects your overall health. Yoga acts as the stress buster if it is practiced on a daily basis. Yoga asnas, breathing techniques (pranayama) and meditation together can help in reducing stress from your life. There are several yoga poses to overcome stress and anxiety including standing forward bend, down dog pose, and cat pose etc.

It aids in leading a happy and healthy life:

When you start performing yoga asnas regularly, you can find a positive perception of your life. Yoga increases happy hormones in your body that elevates your mood and makes you emotionally strong. Thus, you can live a happy and healthy life with yoga.

Yoga improves fitness, enhances strength and flexibility, eliminates stress, aids in weight loss, and regulates heart rate and thus you can keep many diseases at bay with yoga. So, would you like to put in 15-30 minutes of your whole day practicing yoga? It will surely surprise you with the greatest gift of your life that is happiness and fulfilment. Start practicing yoga from today itself to be healthy and happy!

Sopan Gedam works in Data Bridge Market Research Company. He loves to share his research on healthcare topics to a wider audience through his article.

Is the doctor's profession still a noble one?

■ **Dr. Shubha H.V**

- Decoding the facts in the context of Doctor's day……

Doctor's day is observed in India on 1st of July every year and it serves as an occasion for appreciating the good work and contributions of doctors, recognizing their selfless service and expressing gratitude towards them. National Doctors' day was first celebrated in India on 1st of July 1991 as a tribute to Dr. Bidhan Chandra Roy who was an eminent physician, a social worker and a politician. Coincidentally his birth and death anniversaries were on the same date. Indian Medical Association (IMA) has dedicated this day for all the doctors and health care workers who tirelessly work for patient care. The significance of doctors' day was further intensified during the COVID-19 pandemic all over the world to exemplify the role of doctors and health care professionals which was indeed highly commendable.

Doctors' day was first observed in Georgia (US State) in March 1933. On this day, greetings were given to the physicians and flowers/ bouquets were placed on the graves of doctors who had expired. Doctors' day is celebrated across the world but on different dates in different countries. In the United States it is observed on March 30th, in Iran it is celebrated on August 23rd and in Cuba on December 3rd.

Doctors are considered as epitomes of god from the ancient times. The verse "Vaidyo Narayano Harihi" means that a doctor (healer) should be seen in the form of supreme god (Narayana). But is this apt in today's scenario ??? Unfortunately, due to various reasons this verse doesn't hold good in the present times.

Rising medical negligence and malpractice incidents, unprofessionalism and breach of medical ethics, medical education becoming a business with no proper fee regulations, increasing competition among private practicing doctors, enormous expansion of the super speciality and multispeciality corporate hospitals, violence against doctors and many other factors are contributing towards loss of virtues, integrity and nobility in doctors profession.

Source: mosmedicalrecordreview.com

With the rise in cases of medical negligence, a common man is becoming more cognizant of his rights. The incidences are infact more in government run hospitals. Many cases go unnoticed or are often overlooked as the patients themselves are not aware of such incidents or are not ready to confront the situation. On the other hand, it is rather disheartening that relatives/ attendants of patients assume everything as medical negligence and indulge in violence against the doctors without properly judging a situation despite the risk explained by the doctors.

Another distressing and unhealthy issue on the rise is the habit of searching each and every medical related thing in "google" by the patients or their attendants. They are often boisterous and go for a second opinion or get into an argument with the health care professionals for shifting out the patient into another hospital against the medical advice and at the cost of the patient's safety.

Even though superspeciality corporate hospitals are meant for treating intricate or exceptional critical cases, there is also an increased tendency of the patients to go to superspeciality hospitals even for trivial sickness and later grumble about the high charges. Doctors are also blamed for writing an extensive list of investigations unnecessarily. But when a patient goes to seek out an expert opinion how can he complain about the high fares ??? Many times, in order to diagnose a case and come to a proper conclusion many investigations are crucial.

Source: medicaldialogues.in

The irrational prescription of drugs by doctors is an alarming issue to be addressed promptly and multiple factors are contributing towards it. Attitude of the patients to achieve an instant symptomatic relief at all costs, drug promotion and unrealistic claims by manufacturers, unethical inducements, patient's demands and working environment of the doctors are the factors influencing prescription. There is also a trend among the general population to demand the physicians for antibiotics when it is actually not needed. For example, an anxious mother demands her pediatrician to start an antibiotic for viral induced flu-like symptoms in her kid. On refusal by the pediatrician, such mothers might also prefer to change doctors.

❝❝ The verse "Vaidyo Narayano Harihi" means that a doctor (healer) should be seen in the form of supreme god (Narayana).

PERSONA

THEME

INNOVATIONS

WELL-BEING

IN FOCUS

RESEARCH

NEWSCOPE

Irrespective of the pressures, demands and inducements, a doctor must strictly abide by the Hippocratic Oath and should always think of his patient's safety and well-being. He/she should follow the general principles of drug prescription and should always give prime consideration about the perception of drug need, drug efficacy and its cost.

Another Gordian knot in today's society is the problem of exhaustive establishments of medical colleges in every nook and corner of the city with lack of proper fee regulations, proper infrastructure and quality in teaching due to inadequate number of experienced faculty. The harsh reality is that due to irregular low salary and workload, there is a massive exodus of experienced and good faculties from medical colleges resulting in passing out of students without good skills, morals or ethics. This again may lead to a vicious cycle of medical negligence by the under trained doctors.

The responsibility of withholding the nobility and glory of the doctor's profession lies in the hands of the doctors, patients, government and the society as a whole. The doctor-patient relationship has to be strengthened on the basis of respect, trust, care and hope. The patients should

Source: indianutrition.com

Source: malayalam.indianexpress.com

be aware of their rights and at the same time about their responsibilities towards the doctors and hospitals. The government should frame a proper fee structure for the government as well as the private medical colleges. Medical negligence in any form is highly inadmissible. Doctors should be vigilant at every step and must strictly abide by professional ethics irrespective of the demands, coercions and emoluments offered to them.

Doctor's day is not just a day of recognising and appreciating the work and sacrifices of doctors. The present doctors should be able to galvanize and inspire the young budding doctors to visualize their profession as an opportunity to serve their patients with care and selfless motive. The doctor's profession should not wholly

become a mere job. There is nothing special and nobler than saving a human life !!!!

> **Another distressing and unhealthy issue on the rise is the habit of searching each and every medical related thing in "google" by the patients or their attendants.**

> **The harsh reality is that due to irregular low salary and workload, there is a massive exodus of experienced and good faculties from medical colleges resulting in passing out of students without good skills, morals or ethics.**

Dr. Shubha H.V is presently working as Lab head/Consultant Pathologist at SRL Diagnostics, Fortis Hospital, Rajajinagar, Bangalore.

▶IN FOCUS
Here's Why the Healthcare Industry Needs Accessible Documents

■ **Emilie Brown**

From patient intake forms to insurance claim forms, documentation helps to keep a clinic, or any healthcare facility running smoothly and efficiently. However, many of these documents can be difficult for patients to understand. These difficulties are particularly common among people with visual, perceptual, cognitive, or other disabilities. Accessible healthcare documents make it easier for people to understand their medical care and treatment.

Accessible healthcare documents ease the burden on individuals who may struggle with standard documentation but still need access to information regarding their healthcare services or treatment plan in order to make informed decisions about their care or manage their own health. Healthcare facilities can and how make use of document accessibility software to make their forms, policies, and other documents accessible.

Accessible healthcare documents help to improve patient experience

Accessible healthcare documents can improve patient experience and satisfaction. Patients with disabilities often have trouble understanding written medical information due to their impaired vision, hearing, or cognitive ability. By creating accessible healthcare documents, medical professionals can ensure that patients can clearly understand the information they receive. For example, this could include text underlining, bolding, or italicization in healthcare documents.

This helps to make the information more readable by patients who have impaired vision or hearing. By making healthcare documents accessible, medical professionals can also prevent patient confusion and ease anxieties. It can also prevent patients from feeling anxious while talking with a doctor when they are not able to see properly or hear clearly.

There are several different types of documents that need to be accessible for people with impaired vision and hearing.

What types of healthcare documents need to be accessible?

There are several different types of documents that need to be accessible for people with impaired vision and hearing. The most common ones are medical records, prescriptions, and insurance papers. Other documents that may need to be accessible include contracts, legal documents, financial disclosures, and more.

Depending on the type of document or contract being viewed or interpreted, there may be different ways of making it accessible for people with impaired vision and hearing. Some documents can be converted into an audio format with the useable portions highlighted or highlighted in another color, such as yellow or blue. Others can be read aloud or provided in a braille format.

Some contracts can also be printed in large font sizes on a page where the person can find them easier as they can see what they are reading. There are many different options available depending on the type of document or contract being viewed or interpreted.

Reasons why accessible healthcare documents matter

1. Patients have a clear idea of what they are signing

Accessible healthcare documents are critical for ensuring that patients can understand their rights and have confidence in the care they receive. Accessibility can be defined as the degree to which a document is usable by people with disabilities. It encompasses everything from whether it has graphics or images that people with visual impairments can use. When someone has trouble understanding a healthcare document, it can lead to frustration and mistrust, which can undermine the patient's trust in the care team.

By increasing accessibility, you can ensure that patients feel more in control of their own health care decisions and that they feel empowered to advocate for themselves. Keeping accessibility in mind while drafting your next set of medical records is essential.

2. It helps avoid lawsuits

Patients with visual impairments can easily sue your clinic for negligence when you don't provide them with documents that are readable and easy to understand for them. All these lawsuits can be avoided when you make accessible healthcare documents a priority.

3. It shows you care

Every healthcare and insurance company is known to talk about how much they value their patients. However, if that's the case, you must make all your documents available in accessible formats. Doing that will make it easy for the patients with disabilities to go through the documents, and it also shows that you care about every person who visits your clinic.

4. It's the law

According to the Americans with Disabilities Act (ADA), all organizations must provide auxiliary aids and services for people with disabilities. This includes accessible PDFs, closed captioning, large print, audio, and much more. Organizations that don't focus on making these features available are breaking the law, and it's something that we don't suggest you do.

The Healthcare Industry is one of the most important industries in the world. It's the place where you can find any possible medical condition and get the best possible treatment and care. There's no more effective way to improve your patient's experience and satisfaction than by ensuring that they can easily read and understand your healthcare documents and other communications.

One of the most important things that you can do when it comes to healthcare is to make sure that your documents are accessible to people with disabilities. Healthcare professionals who have made an effort to make their medical records, insurance forms, and contracts accessible to people with disabilities have significantly reduced the rate of misunderstandings, dissatisfaction, and dropped-off appointments.

> **According to the Americans with Disabilities Act (ADA), all organizations must provide auxiliary aids and services for people with disabilities. This includes accessible PDFs, closed captioning, large print, audio, and much more.**

Emilie Brown works with the Digital Marketing team at PREP, an AI-based remediation software that enables businesses to create WCAG and ADA compliant PDFs in minutes. Her approach and methodology is simple, concise and to-the-point and connects with readers seeking for solution-driven content on topics related to accessibility and remediation.

What are the key aspects for an Overall Health of a Woman?

■ Sopan Gedam

Women in the family are the key caretaker of children as well as elders in every country around the globe. She performs numerous roles including wife, mother, organizer, partner, administrator, teacher, director, economist, re-creator, disburser, disciplinarian, health officer, artist, and more importantly the queen in the family at the same time.

Not to mention, women characterize the cornerstone of a family's overall health and therefore they must obtain quality care which will ultimately lead to better health for children and families. After all, the health of families and communities are coupled to the women's health to a degree.

So, to have a healthy life, it's obligatory for all women to eat healthy, exercise regularly, and stay away from lousy lifestyle habits. Besides, it is also helpful to get your body examined from a women's health specialist for any potential problems and possible treatment solutions.

In addition to healthy eating and healthy lifestyle, women's health encompasses all therapeutics, drugs, surgical offerings, and precautionary measures for the several disorders related to the women's population. These disorders are generally associated with the nutrition, oncology, reproductive system, menopause, urological system etc. Offering better management of diseases and focusing on the enhancement of healthy lifestyle is of utmost importance when it comes to overall health of the women population.

> **Women characterize the cornerstone of a family's overall health and therefore they must obtain quality care which will ultimately lead to better health for children and families.**

InnoHEALTH

> **In addition to healthy eating and healthy lifestyle, women's health encompasses all therapeutics, drugs, surgical offerings, and precautionary measures for the several disorders related to the women's population.**

As a woman, your body may frequently experience various changes depending on your age, lifestyle, genes, and environment. However, there are certain key aspects of an overall health of a woman that you always need to consider no matter what your age or environment is. These aspects mainly include;

• What you eat makes a lot of difference

Healthy food that comprises a balanced diet and all the nutrients required for your body is very essential to lead healthy living. Many times, diet is directly related to a few of the diseases including diabetes, obesity, and high blood pressure. e.g. if you eat food that is high in cholesterol too often, there are great chances of becoming obese. Rather, you can choose healthy options such as white meats (fish or chicken) in controlled portions. For snacking, you can go for healthy choices including peanuts, apples, or walnuts. This way you can keep yourself away from the risk of coronary heart disease and also keep control on your weight.

• Regular physical activity is a must to be fit

Physical activity doesn't mean hitting the gym daily and doing intense workout or running 20 miles per day. Your regular physical activity can be as simple and easy as 5-10 minutes of walking or jogging. You can maintain fitness even with this much daily exercise and can lessen the risk of getting heart disease or bone disease. Moreover, if you already have some health issue, you can go for specific physical activity such as Yoga to ease your problem.

• A visit to health care provider

A regular visit to your primary health care provider (even if you are not sick) helps you know if there is risk of any health issue in your body. He can give you medical advice at the correct time before it's too late that your body starts showing symptoms of the disease. Your doctor can perform diagnostic tests depending on your health condition and come to know if there is possibility of any severe disease. Women's health diagnostics is very essential to know disorders related to gynecology, breast cancer, ovarian cancer, sexually transmitted infections (STIs), birth control, menopause, hormone therapy, pregnancy and childbirth, sexual health, osteoporosis, heart disease, and benign conditions etc.

As Women's health ultimately promotes child health and family health, it's vital to maintain the health and wellbeing of a woman first. Along with healthy eating and regular exercise, scheduled visits to a doctor for a diagnosis and prevention of serious health issues has become very essential.

Sopan Gedam works in Data Bridge Market Research Company. He loves to share his research on healthcare topics to a wider audience through his article.

> **Women's health diagnostics is very essential to know disorders related to gynecology, breast cancer, ovarian cancer, sexually transmitted infections (STIs), birth control, menopause, hormone therapy, pregnancy and childbirth, sexual health, osteoporosis, heart disease, and benign conditions etc.**

▶ RESEARCH

Innovation in **Healthcare**

■ **Neha Lal**

The Healthcare Industry being so dynamic in nature, asks for innovations and new inventions at every moment. These inventions might be out of curiosity or necessity. The innovations done in the Healthcare Industry are aimed at two major aspects; provide effective care to the patients and increase efficiency of the service providers (Physicians, Hospitals & Other Clinical Staff.) We must note that the health status of a nation is not only reflective of its citizen's well-being but also impacts its economic advancement. A healthy population is more productive and effectively contributes towards the overall progress of the country. This makes healthcare coverage for each citizen vital.

Over the years India has improved immensely in health parameters such as life expectancy, mortality rates, health & sanitation, immunization, among others. Emerging technologies such as IoT, 5g, Robotics etc. have changed the way healthcare industry operates and the patients' experience. As with nearly all other sectors in the world, digital innovation has proven to be a real tipping point in the healthcare sector globally. Emerging digital healthcare solutions not only improve access to healthcare services, but they have the potential to create holistic healthcare ecosystems. All health needs for a patient - from consultancy and diagnostics to medicine delivery, home healthcare, and remote patient monitoring can be served via these ecosystems, which will also help maintain comprehensive electronic medical records and build a patient's longitudinal history.

The Government's focus on digitization of healthcare, has given a rise to integration of new technologies and data management. In the long run, it will bridge the gap between physicians and patients or between two physicians, especially in remote areas. Taking a step ahead, the recently announced financial budget for 2022-23 emphasized on creating an open platform for the National Digital Health Ecosystem, consisting of digital registries of health providers and health facilities, unique health identity and universal access to health facilities. Such foundational changes can be challenging on an organizational level but can result in a notable transformation due to its compound effect.

Ayushman Bharat Digital Health Mission is launched with a vision of creating a national digital health ecosystem that supports universal health coverage in an efficient, accessible, inclusive, affordable,

> ## Like "The Medicine from the Sky (MFTS)" programme in India's Telangana state commenced with the agenda to replicate urban-grade healthcare in rural areas and address unique scenarios that affect local populations.

States are also running trials for commercial drone delivery. Like "The Medicine from the Sky (MFTS)" programme in India's Telangana state commenced with the agenda to replicate urban-grade healthcare in rural areas and address unique scenarios that affect local populations. The recently concluded MFTS 45 days trials in the Vikarabad district of Telangana state provide sufficient evidence of the advantages and potential of the technology, especially when combined with aviation policy changes. They provide a proof of concept not just of the technology but also the approach adopted and serve as a model for implementation in the developing world. In the first scheme of its kind, 8 participating drone consortia conducted long-range temperature-controlled vaccine deliveries in rural areas which were beyond the visual line of sight (BVLOS), thus paving the way for numerous other programmes of a similar nature in the region, such as blood stock, diagnostic specimens, Reduce mortality caused by snakebites or rabies, Improve treatment of cases that require second- and third-line antibiotics, Provide "urban" standard of care to rural patients and many more.

Going a level up in the field of Healthcare, IT has become a need now as it will not only improve operational efficiency but also help in reducing the overall cost in the long-term. Adapting AI in the Hospitals has several advantages, listing some of them below:

• Accuracy in the various Diagnostic procedures by stitching multiple images such as CT scan for detecting tumors, cancers, etc.

• Remote Patient Monitoring Systems provide real time patients' vitals' information such as BP, Pulse, Temperature which helps the doctors & nurses to monitor patients from anywhere without any physical contact & also helps them in making prompt decisions w.r.t patient care. India based startup Helyxon is offering an AI-based biosensor 98.6 Fever Watch which continuously monitors temperature digitally and alerts

doctors or attendants about any abnormal spike. Devices like Cube Sensors that are very simply designed cubes to measure air quality, temperature, humidity, noise, light, air pressure and based on patients' personal information, they adjust the relevant factors for optimizing their well-being at home.

• Reducing Need for Follow-Up Visits by tracking patients' health remotely with the help of wearable devices or the use of Health Robots or AI Doctors that can assist and serve the patients 24/7.

• Wearable devices are one of the biggest applications of IoT in Healthcare Industry. They not only help in tracking the patients' vitals but also help in managing the crowd with the help of geo tracking sensor by sending data about each device's current location and alert when people exceed from predefined limit at specific area. A such example is a Digital Tattoo that captures the electrical activity of your heart (ECG) and/or the blood pressure levels.

Devices like Vein Scanners could be used handy in the hospitals- to ease the job of phlebotomist, to find veins, especially for the dehydrated patients which otherwise becomes a tedious task for them. This will also make ease for the patients as it will cause them lesser pain and difficulty.

• A research team led by Boston University has used 3D printing technology to develop a miniature replica of a human heart – and it beats like the real thing. The researchers believe their heart chamber replica could serve as a testbed to study how the organ works in the human body. It can be used to track how the heart grows in an embryo, how heart tissue is affected by diseases, and how effective new medications are in treating said diseases, all without the need for human testing.

• The role of Virtual Reality is being studied in palliative care. In fact chronic pain patients have been seen to take less pain medication when they play VR games. What if dying Covid patients could have visited their favorite places using

VR? Imagine also if hologram technology could be leveraged the way NASA did in teleporting a doctor to the International Space Station. Using holograms to bring patients' loved ones to their rooms can likely have a positive impact on their state of mind, thereby reducing the stress on our physicians.

Artificial intelligence is increasingly being used in healthcare not only for decision support but to reduce the administrative burden that contributes to physician burnout. To ease the burden, AI-powered voice solutions like Suki are working to reduce doctors' documentation workload and improve access to patient information. Jallel Harrati, Senior Vice President of Sales and Marketing at Suki, compares the Redwood City, California-based company's flagship application Suki Assistant to Apple's Siri, but for doctors. As Suki seeks to continually improve the functionality of its digital assistant, the company announced last week that it had added new voice-enabled capabilities. The voice solution Suki Assistant uses machine learning and natural language processing to accurately understand and document information and respond to physician commands, according to the company. Digital technologies are being harnessed to support the healthcare industry worldwide, including population surveillance, providing remote and personalized care, evaluation of interventions based on mobility data and communication with the public. Various Nations' Governments are also taking initiatives and focusing towards digitization to transform the face of Healthcare Industry.

Neha Lal, Senior General Manager, Hospital Operations & HR, comes with an immense knowledge in the field of Hospital management. She is presently associated with GCS Medical College, Hospital & Research Centre, Ahmedabad. She is also associated with NABH (National Accreditation Board for Hospitals & Healthcare) as NABH Assessor from Quality Council of India (QCI) New Delhi. For her contributions she was conferred with many prestigious accolades.

timely and safe manner based upon standard digital systems ensuring the security, confidentiality and privacy of health-related personal information. It has four major components viz. Health ID, Healthcare Professionals Registry (HPR), Health Facility Registry (HFR) & Health Records (PHR). The mission aims at creating a common health platform for individuals (patients), Healthcare professionals, Healthcare Facilities & the Policy makers i.e. State & Central Govt. Health care professionals across disciplines will have better access to a patient's medical history (with the necessary informed consent) for prescribing more appropriate

and effective health interventions. The integrated ecosystem will also enable a better continuum of care. ABDM will help digitize the claims process and enable faster reimbursement. This will enhance the overall ease of providing services amongst the health care providers. The implementation of ABDM is expected to significantly improve the efficiency, effectiveness, and transparency of health service delivery overall. Patients will be able to securely store and access their medical records (such as prescriptions, diagnostic reports and discharge summaries), and share them with health care providers to ensure appropriate

treatment and follow-up. ABDM will empower individuals with accurate information to enable informed decision making and increase accountability of healthcare providers. Moreover, the healthcare facilities will also be easily accessible to the individuals with the help of geolocation provided on search engines & they can treat patients from throughout the country with the help of Health ID created on ABDM which will be common for any public or private healthcare facility in the country containing all their medical history as consented by the individual.

Drone Rules, 2021 has replaced the complex approval process required to fly drones beyond the visual line of sight (BVLOS). Certification has also been made easier.

Another highlight is the introduction of Drone Deliveries to remote areas, to provide better access to the healthcare facilities. While drone deliveries have been in the works for a while, liberalized drone guidelines for commercial operators have facilitated adoption at a large scale, Drone Rules, 2021 has replaced the complex approval process required to fly drones beyond the visual line of sight (BVLOS). Certification has also been made easier. Besides, the government is creating

special corridors for drone delivery. Under the Drone (Amendment) Rules, 2022, commercial drone flyers do not require 'remote pilot license' to legally fly. They simply require a remote pilot certificate, which can be issued by an authorized remote pilot training organization. The Healthcare Industry will be the first large-scale adopter of commercial drone delivery after the government liberalized rules for operating drones in August-2021. Skye Air Mobility, a drone

delivery startup has partnered with 85% of organized diagnostic centres, including SRL Diagnostics and Redcliffe to deliver test samples and medicines using drones. Besides, the company is working with e-commerce and food delivery platforms like Swiggy and Dunzo, who are planning to use drones in cities for delivering groceries. Drones will allow multiple flights and reduce costs on manpower and vehicle substantially.

Furthering the Medical Devices Sector in India

■ **Arvind Kumar Prajapati**

PERSONA
THEME
INNOVATIONS
WELL-BEING
IN FOCUS
RESEARCH
NEWSCOPE

The medical devices segment is diverse, creative, and dynamic sector that includes a wide range of products such as implants, surgical instruments, medical equipment, In-vitro diagnostic reagents, and consumables. It is an essential part of the healthcare system for diagnosis, treatment, and prevention of health issues. The Indian medical devices market is currently estimated to be $11 bn, with global market share of nearly 1.5%. India is Asia's 4th biggest market and ranks in top 20 global medical devices markets. It is reported that the Indian medical devices sector is at its nascent stage and import centric, around 80% of medical devices are imported to meet the domestic requirements, majority of them come from the US, China, and Germany. Despite high import dependency, the Indian medical devices sector is expected to grow at 7% CAGR during 2021 to 2025 and is projected to observe the rapid growth in the Asia Pacific market. The accelerated growth is anticipated due to concurrent reasons such as rising demand of devices because of global pandemic, rising prevalence of chronic diseases, and elderly population which is expected to grow by 41% in 2031 compared to 2021. To

reduce the import dependency and satisfy the rising demand of medical devices, a comprehensive, and carefully devised strategy is required, which shall assist in achieving the fundamental objectives such as accessibility, affordability, quality, in-house manufacturing and skilled manpower.

The various government initiatives

Although 100 percent FDI through automatic route in medical devices was allowed in 2014, tangible attention of policy makers and bureaucrats appeared only in the last two or three years during and post-pandemic. To strengthen the medical devices sector, the government provided financial support of 25 crore to Andhra Pradesh MedTech Zone (AMTZ) for a common facility centre. Subsequently, to improve manufacturing in cancer/radiotherapy, imaging devices, renal and cardio-respiratory devices and implants sectors, the production linked incentives scheme for medical devices was initiated in 2020, with an amount of 3,420 crore. Further, the medical devices parks were envisaged by allocating 400

crores for developing the medical devices, research facilities and skilled manpower. By introduction of the medical devices rule 2017, which categories the medical devices in four classes, the quality and efficacy was inducted in this sector. Moreover, the national pharmaceutical pricing authority swung in action for price capping of knee implant, stents, oxygen concentrator and point of care devices (POC) to reduce the dealer's margin. To address the rising price of drugs, the government opened 8604 affordable outlets (Jan Aushadhi Kendras) which offer 1451 drugs and 240 types of surgical supplies. Another step towards Universal Health Coverage (UHC), The initiative of the Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) was pioneered by providing the health insurance of ₹ 5 lakhs per family per year, which covers approximately 50 crore Indian poor and vulnerable families. The forenamed initiatives deserve the praise for notable work by the government, but there is still a necessity to advance medical devices sectors to achieve the vision of affordable and quality care to every stratum of the society.

> The accelerated growth is anticipated due to concurrent reasons such as rising demand of devices because of global pandemic, rising prevalence of chronic diseases, and elderly population which is expected to grow by 41% in 2031 compared to 2021.

PERSONA

THEME

INNOVATIONS

WELL-BEING

IN FOCUS

RESEARCH

NEWSCOPE

Areas of improvement and suggestions

Despite various schemes initiated by the government, there is a necessity for a comprehensive and clear roadmap for accelerated and continuous growth in the sector. The urge for improvements in the sector is further stressed by the diversity in the medical devices product segment which demands the wide range of interventions in different areas as underscored below.

Medical devices regulation:

The single window online portal for efficient management of information associated with medical devices is essential. The online portal should allow ease in medical device registration, obtaining import and manufacturing licensing, clearance for clinical investigation to all the stakeholders like Co-WIN portal used for vaccination drive.

Research and Development (R & D) funding: The allocation of dedicated funds to encourage joint research with industry, academic and start-ups is much entailed. The fund should be disbursed for building contemporary laboratories for various evaluations, implant and instruments testing, animal studies, equipment testing etc. for R & D activities. These well-equipped laboratories could lead to enhanced research-oriented collaboration, partnerships and innovation in the domestic medical devices sector.

Price regulation of medical devices:

The projected Indian annual per capita income in 2022 is ₹1,78,944 ($2,357.643) which translates to ₹14,912 per month. The per month income for quality health services to common people is surely less, thus price regulation of medical devices and hospital charges could play an important role in offering affordable medical devices to all. However, careful understanding of medical devices and well devised strategy for price regulation will be required to maintain stability in the medical devices segment.

Healthcare Infrastructure:

The highly infectious COVID-19 virus has created panic in the healthcare community and its deleterious episodes are continuing. On other hand it has emphasised the need for infrastructure requirements. The various media reports stressed the shortage of beds in health care centres, which left patients unattended for a long time. This insinuated the need for a good physical foundation for health services and healthcare research for better management and treatment of diseases. Thus, the need for contemporary healthcare infrastructure is essential, which may also attract the domestic manufactures to invest in medical devices sectors.

Promoting the collaboration:

The idea of industrial cluster near to all academic Institutions, could provide the essential environment for industrial collaboration, The global giant in medical devices technology such as Medtronic, Stryker, GE Healthcare, Philips, and Medtronic shall be encircled in this type of collaboration, it can be easily done since most of them already have centres in India. The triple helix model, commonly used in western countries, shall be tried in this collaboration initiative, where government, industry and Institutes would interact for improvement in the domestic medical devices segment.

Innovation parks:

The promotion of the ecosystem that houses the network of institutions, start-ups, clinical setting, funding agencies is much needed. This type of ecosystem is called innovation parks; the medical devices parks should be initiated to provide the impetus to scale up the production, encourage the research to market translation and quality medical devices. These parks shall further have strong association with the Ministry of Human Resource Development to make necessary corrections in National Education Policy 2022, by designing proper course work to meet the domestic medical device industry requirements.

Creating centres of excellence:

The further boost in creating centres of excellence at reputed institutes would attract world class faculties to engage them in medical devices which are fit for India. These centres shall be further strengthened to drive the role in product development, validation, certification, promote the safety and efficacy and use of latest technology such as Internet of Things (IoT), Robotics, Telemedicine, Artificial Intelligence (AI) etc. in the medical devices sector.

Trained Human Resource:

As pre survey from AMTZ the half of the workforce in the medical devices sector are unskilled, signaling the need for skill development programs in this sector. The National Institutes for medical devices like IITs, NITs and IISc could be envisaged. These institutes shall provide training, internship, and hands -on experience in medical devices. Further, association with private players shall be encouraged for research and training funding. The course curriculum in these Institutes shall be drafted such that it brings doctors, technicians, service engineering, scientists, and engineers together like Clinical Engineering, a joint initiative by three Institutions namely IIT Madras, SCTIMST and CMC Vellore to improve the skills in the domain.

IP (intellectual property):

Patenting is the formal way to protect innovative ideas. Intellectual property right offers various advantages such as, competitive advantages against the

established competitors, prevents ideas from theft, and signals to investors about the new technology. Patenting in the Indian medical devices sector shall be encouraged for continuous and stable growth in the sector.

Custom Duty:

It is a long pending request from the Indian Medical devices industry to increase the custom duty on imported medical devices. The demand is to increase the custom duty from 0 to 7.5 % to 15% and reduce the GST from 18% to 12%. The call on the request shall be considered after proper evaluations, since on one side it will ease the entry of local medical device manufacturers in the market but on other side it will lead to deficiency of quality and innovative product in market.

Acceptance of personalized treatment: Personalized care often called precision medicine is tailor-made treatment to patients based on their molecular profiling. It is an emerging and exciting treatment approach which envisages an important role in preventing, predicting diseases and educates patients to get the right treatment. There shall be a policy to promote such patient centric treatment initiatives within the country, which will contribute to the growth in the medical devices segment since personalized medicine has over-reliance on diagnostic devices.

The aforementioned suggestions are specific to build a strong foundation for the Indian medical devices sector. These are a few steps to reduce import dependency and realize a self-reliant India. If these areas are stressed for the next decade, India could become the global supplier in medical devices from the status of importer.

> **The need for contemporary healthcare infrastructure is essential, which may also attract the domestic manufactures to invest in medical devices sectors.**
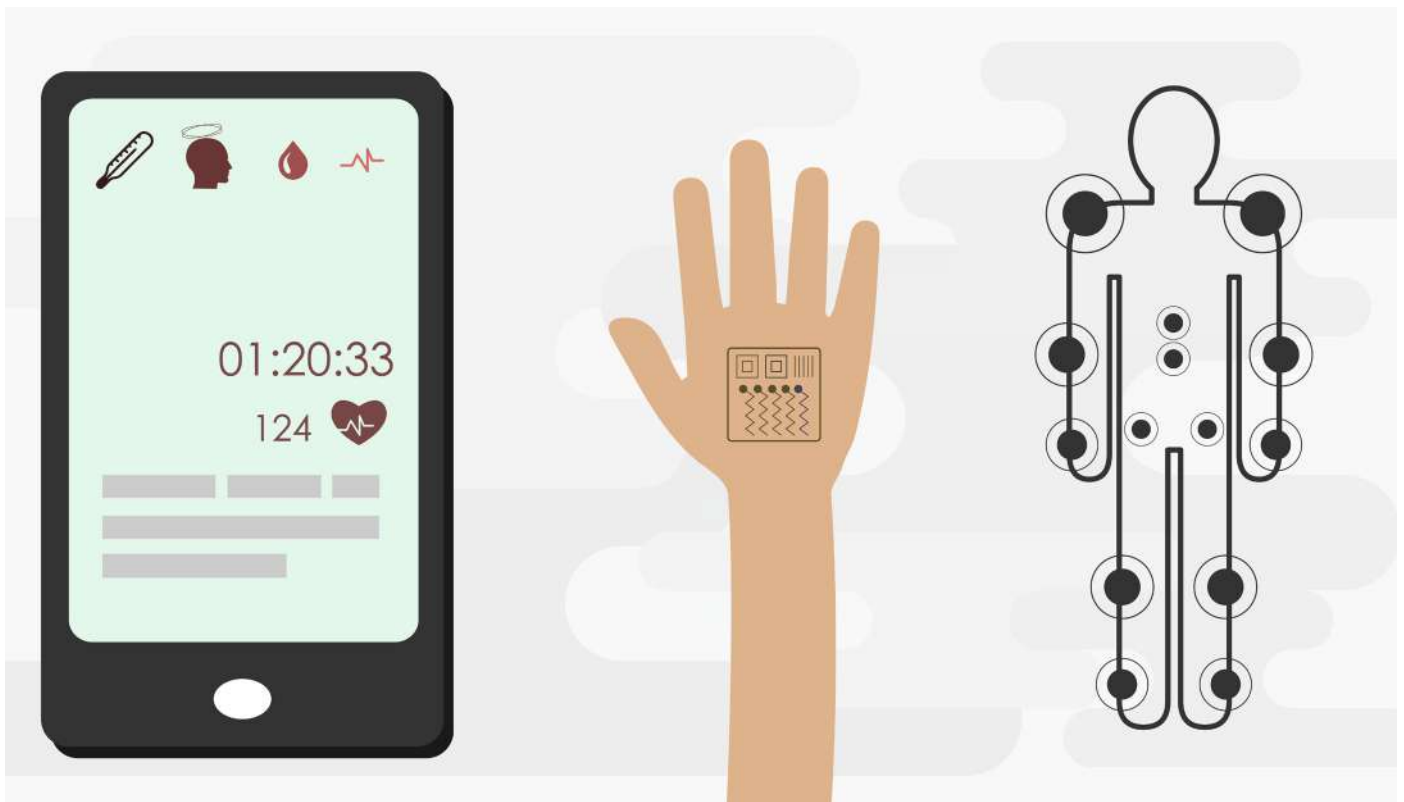
> **The further boost in creating centres of excellence at reputed institutes would attract world class faculties to engage them in medical devices which are fit for India.**

Arvind Kumar Prajapati is presently associated with Biomedical Technology Wing, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, India. He has worked on design, development and validation knee,hip, spine implants and instruments.

PERSONA
THEME
INNOVATIONS
WELL-BEING
IN FOCUS
RESEARCH
NEWSCOPE

innovatio curis
Foundation of Healthcare & Excellence (ICFHE)
Not-for-profit

IC Nursing Innovator**FORUM**

The mission is to support and engage nurses in areas of practice, research and leadership, while creating an environment in which professional nurses can share knowledge and support learning, empowerment and professional development, and are committed to make a difference and improve the care of populations in the Indian community.

Objectives

To capture thoughtful discussions on healthcare developments and reflection of nurse's commitment towards care delivery system.

To facilitate a group of like-minded individuals with knowledge to share, curiosity, and a healthy sense of health care community.

To engage nursing faculty in the re-visioning of nursing courses as well as their pedagogical practices, with the specific goal of enhancing students' understanding of healthcare innovations and professional practice models.

To provide an opportunity for members of the forum to hear from a range of experts, stakeholders of health care system, and members of the public and to see, first-hand, the challenges and innovations in health care settings where nurses provide care.

Exchange of information with others senior nurses or healthcare specialists

Finding comfort and getting connected with other nurses of same specialty as of yours

Expanding your knowledge from most experienced nurses

Promoting yourself for professional purposes an excellent marketing platform

How this Forum helps you?

Awareness about nurses' experience in other workplaces

Benefits of the membership

- ☑ Speaker nomination/participation to events like, Embassy dinners, Meet-ups and IC ecosystem partner hosted events

- ☑ Save 10% on all activities/events

- ☑ Free promotion of member businesses on our monthly newsletter reaching 95,000+ healthcare stakeholders

- ☑ Networking opportunities at
  - *Partnering events of ecosystem members*
  - *Club meetings*
  - *ICFHE hosted events*

- ☑ Exposure to innovations in healthcare

- ☑ Special discount on nursing training & webinars

Membership is open for all registered nurses, health care organisations, nursing institutions and universities

Pricing

1 year	1500 INR
2 years	2500 INR
3 years	3500 INR

Payment Details

Name of Beneficiary	Innovatiocuris Foundation Of Healthcare and Excellence
Name of Bank	AXIS Bank
Address of Bank	Ground Floor, A-1, Adhchini, Aurobindo Marg New Delhi - 110019 India
Account Number	918020021321597
IFSC Code	UTIB0003028
MICR Code	110211177

BECOME A MEMBER

▶ NEWSCOPE

LATEST NEWS IN HEALTHCARE

109 MOHALLA CLINICS TO BE SET UP BY END OF THIS FINANCIAL YEAR: PUNJAB HEALTH MINISTER

Punjab is known for its agricultural land and farmers. The residents of the state are unable to afford the best healthcare facilities either due to lack of funds or due to lack of available facilities. These Mohalla clinics will provide the best health services to the underserved population, this will definitely reduce the burden on government hospitals.

Punjab Health Minister Chetan Singh Jouramajra on Tuesday said 109 mohalla clinics will be set up by the end of this financial year in the state. The Bhagwant Mannled government will operationalise 75 'Aam Aadmi clinics' on August 15, he said.

The 'Aam Aadmi Clinic' project will provide the best health services to people and they are going to be functional from August 15 across the state, he said in a statement here. "By the end of this fiscal year, 109 mohalla clinics will be set up to ensure that the common man will not remain deprived of basic health facilities in the state," he said.

After the opening of 'Aam Aadmi clinics', people will get treatment near their houses. They will visit big hospitals only if they will be undergoing any major surgery, he stated. Consequently, these clinics will reduce the burden on the government hospitals across the state, said the health minister.

He hit back at opposition parties, accusing them of trying to defame the AAP government with baseless allegations over the issue of 'mohalla clinics'. The AAP government led by Mann is committed to transforming the health system and eradicating corrupt practices to facilitate the people of Punjab, he said. These clinics are not only being whitewashed but the AAP government will also provide outpatient care for a range of common illnesses, first aid for injuries, dressing and management of minor wounds at the doorstep of the people by doctors, he said. He further said referral and subsequent follow-up for specialized care will be done through these clinics. Essential drugs and tests will also be made available free of cost in these clinics, he said.

PERSONA

THEME

INNOVATIONS

WELL-BEING

IN FOCUS

RESEARCH

NEWSCOPE

The Congress on Monday had questioned the logic and rationale behind setting up of 'Aam Aadmi Clinics' in Punjab, saying it already has a nationally and internationally acknowledged robust and vibrant healthcare system.

"There are already thousands of better equipped and better staffed government run dispensaries across the state, which the AAP government wants to replace with such clinics, which have already failed in Delhi," Punjab Congress chief Amrinder Singh Raja Warring had said.

People really do not need refurbished 'Suvidha' centres as their first-aid centers, when they have easy access to better facilities across the state, Warring had said.

Earlier, the Shiromani Akali Dal (SAD) had asked CM Mann to stop trying to "befool" people by changing name plates of buildings and schemes. The party had slammed the government for trying to secure cheap publicity by converting 'Suvidha Kendras' established by the erstwhile SAD government, into 'Aam Aadmi clinics'.

The party had said that these 'Suvidha Kendras' were established to provide citizen-centric services under one roof to the people of the state.

SOURCE: *www.health.economictimes. indiatimes.com/*

ADITYA BIRLA HEALTH, POLICYBAZAAR LAUNCH OPD ADD-ON COVER WITH ZERO WAITING

There is no waiting period in OPD Add-on cover which when availed from Day 1 and it covers 32000+ doctor networks in 70+ cities. Selection of OPD Add-on will be applied at policy level. This will enable all the insurance holders a default benefit on an individual basis. This progressive step will help the medical industry a shorter wait lines and more efficient processes.

Aditya Birla Health Insurance Co. Ltd. (ABHICL) has launched 'OPD Add-on' for its customers. This product can be added to existing indemnity plans to provide unlimited medical consultation at affordable prices.

The add-on cover aims to provide hassle-free physical and virtual consultation, and offers a range of special consultations such as gynaecology, orthopaedic, paediatric, ophthalmologist, physiotherapist and nutritionist, referred or prescribed by a general practitioner, in relation to any illness or injury.

Mayank Bathwal, chief executive officer, Aditya Birla Health Insurance, said, "New-Age insurance is all about being proactive, taking preventive measures and being there for our customer. Hence, we came up with an OPD Add-on cover with both physical and tele-consultation which can be easily accessible for policyholders. This cover will help them consult doctors virtually as well, irrespective of their location."

Types of OPD Add-on Cover:

Option (1) ₹599 per insured (excluding tax) - Unlimited Physical Outpatient consultations by a general medical practitioner

Option (2) ₹799 per insured (excluding tax) - Unlimited Physical & Virtual Outpatient consultations by a general medical practitioner

Option (3) ₹999 per insured (excluding tax) - Unlimited Physical & Virtual

Outpatient consultations by a general medical practitioner

There is no waiting period and the add-on kicks in from day one, and covers more than 32,000 doctor networks in over 70 cities. Selection of OPD Add-on will be applied at policy level and all insured will receive the benefit on an individual basis by default. The minimum and maximum age at entry will be as per the base policy.

Sarbvir Singh, CEO, Policybazaar. com, said, "Health insurance with OPD

coverage is an urgent need for the country as 60% of all healthcare expenses are OPD, and these are currently paid out of pocket. This product solves a large un-met need. We have always had customers coming and asking for OPD plans and this should really help address that market gap. This completely aligns with our vision of making financial security accessible to every Indian household when they truly need it."

SOURCE: *www.livemint.com/*

FUJIFILM TO LAUNCH TWO NEW NURA HEALTH SCREENING CENTERS FOCUSING ON CANCER SCREENING IN INDIA

According ICMR report on 'Burden of cancers in India', there are seven cancers accounted for more than 40% of the total disease burden: lung (10.6%), breast (10.5%), oesophagus (5.8%), mouth (5.7%), stomach (5.2%), liver (4.6%) and cervix uteri (4.3%). The number of Indians suffering from cancer is projected to increase to 29.8 million in 2025 from 26.7 million in 2021. With these new screening centers it can be delayed or at the least can be detected at an early stage for treatment.

FUJIFILM Corporation (President and CEO, Representative Director: Teiichi Goto) is pleased to announce the opening of two new "NURA" health screening centers focusing on cancer and lifestyle diseases screening in India.

The new NURA centers will open in Gurugram on July 21 this year, and in Mumbai in September of the same year.

In February 2021, Fujifilm opened its first NURA health screening center in Bengaluru, India to launch a health screening service business in emerging countries. NURA utilizes Fujifilm's medical devices, capable of providing high-definition images, as well as medical IT systems based on AI technology that are designed to support doctors carry out screening and tests for cancer and lifestyle diseases. With the addition of two sites in Gurugram and Mumbai, Fujifilm will offer screening for cancer and lifestyle diseases in a total of three NURA sites. The company will continue to establish new NURA sites to further expand its health screening service business in emerging countries.

The five-year survival rate among cancer patients in India is said to be around 30 percent as opposed to 70 percent in Japan. It is considered that one of the factors behind the low survival rate in India is the low proliferation of health screening services, imposing practical difficulty in achieving early detection and early treatment of cancer.

Speaking on the opening of NURA health screening center in Gurugram, Mr. Teiichi Goto, President, and CEO, Representative Director of FUJIFILM Holdings Corporation, said, "Ensuring the highest health standards in every region we operate has been our utmost priority. We have a special connection with the Indian market; hence, our purpose is to ensure that health screening services are easily available in the country. We aim to position ourselves where access shall be easier and getting regular screening shall be achievable. We also plan to collaborate with different companies to ensure that a critical aspect of preventive and regular health check-ups is not ignored by the young working class of the country."

The NURA center is equipped with Fujifilm's various medical devices including CT scan and mammography system, as well as an AI-based medical IT system that provides interpretation assistance to doctors, offering Japanese-style high-quality health screening services to local residents and employees of nearby companies / medical facilities. People of various age groups have experienced the screening service and are satisfied with the services NURA provides,

especially the convenience of being able to finish all checks in just about 120 minutes and hearing results directly from a doctor after the screening.

Located at DLF phase 5, sector 43, Gurugram, 'NURA' health screening center will tap into insight gained through health screening services. Elaborating on the need for health screening, Dr. Tausif Ahmed Thangalvadi, Medical Director, NURA, said, "As the complexities in lifestyle have increased, we have become complacent towards our health and wellbeing. It is important that health screening should be a regular part of everyone's life as there are so many diseases that can be treated when diagnosed at the right time. With the state-of-the-art facilities and technologically advanced equipment manufactured by Fujifilm, we aim at providing the best services and initiating a change in the habits of people in the country."

SOURCE: *health.economictimes. indiatimes.com/*

HEALTH MINISTRY PROPOSES NEW DRAFT GUIDELINES FOR DRUGS, MEDICAL DEVICES AND COSMETICS BILL, 2022

The new regulatory guidelines keep up the pace with changing needs and/of technology; and might also ease out the stringent situations for the clinal approvals like in the case of drugs against COVID, that is when the time is running out and the people are at stake.

PERSONA

THEME

INNOVATIONS

WELL-BEING

IN FOCUS

RESEARCH

NEWSCOPE

The Union Health Ministry is in the process to revise the outdated Drugs and Cosmetics Act of 1940 with an updated one where the focus will be more on laying down strict regulatory guidelines to keep pace with changing needs and technology. The ministry has called for suggestions, comments and objections from various stakeholders.

The bill proposes new definitions for clinical trials, over-the-counter drugs, manufacturers, medical devices, new drugs, bioavailability studies, investigational new drugs and imported spurious drugs, among others. It seeks to bring in regulations for online pharmacies and medical devices and penalties such as imprisonment and compensation in case of injury or death during clinical trials for drugs.

The draft also proposes that no clinical trial can be carried out without permission, medical management and compensation for injury or death, the draft proposes. The bill further mentions that no person shall himself or by any other person on his behalf sell, stock or exhibit or offer for sale or distribute any drug by online mode (e-pharmacy) except under and following a license or permission issued in such manner as may be prescribed.

The Centre has proposed a separate Drugs Technical Advisory Board (DTAB) and Medical Devices Technical Advisory Board (MDTAB). Other than officials from the health ministry, the board will also include people from the department of atomic energy, department of science and technology, Ministry of Electronics, DRDO, and experts in the field of biomedical technology, biomaterials, and polymer technology.
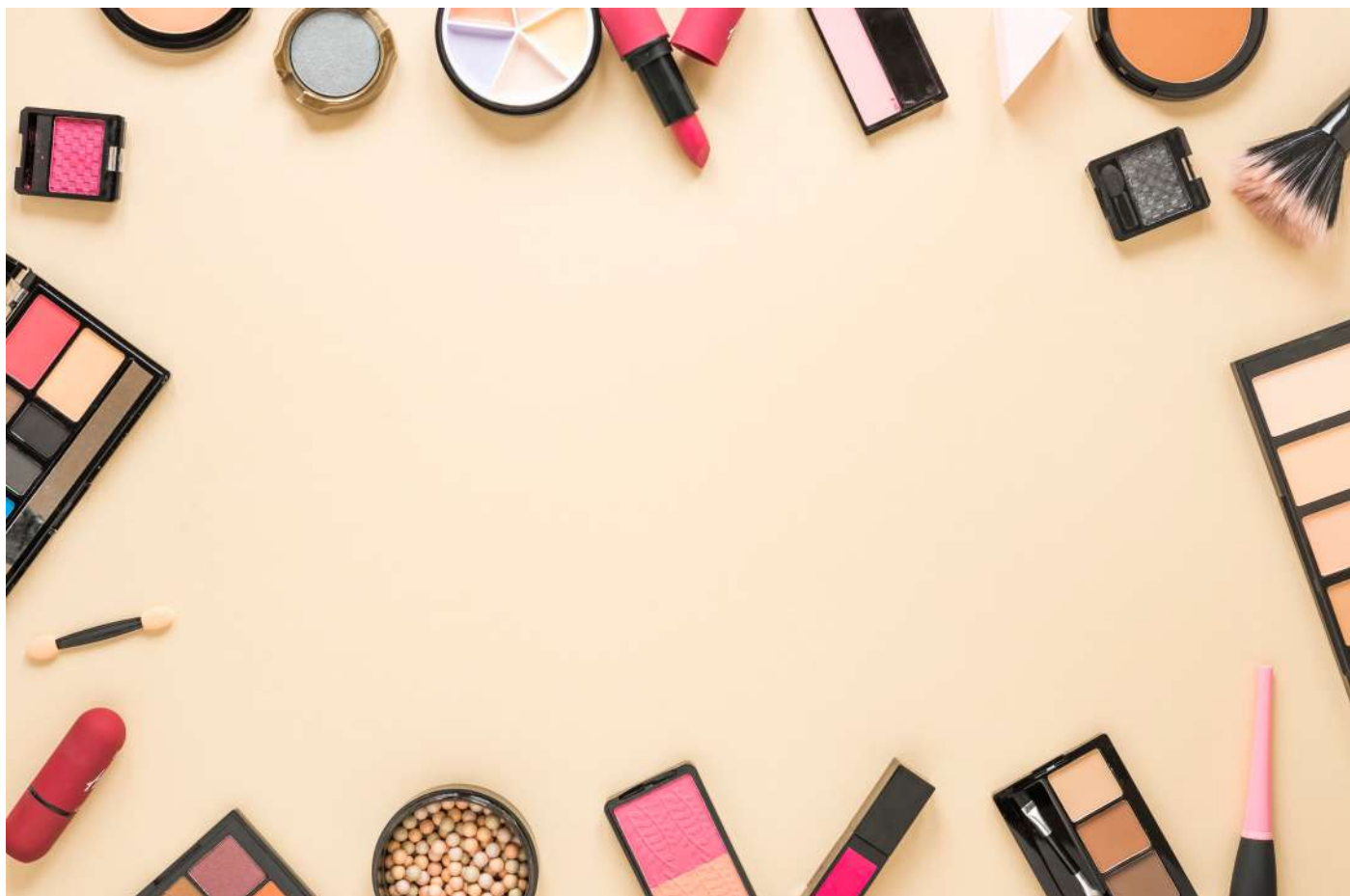
The draft proposes to allow the Centre to waive the requirement of conducting a clinical investigation for the manufacture or import of a new medical device in the public interest.

It proposes medical device testing centres on the lines of drug laboratories in states and at the central level and states that medical management and compensation have to be provided to persons who are injured while participating in such trials. And, in case of death, the legal heir of the participant should be awarded compensation.

The Bill proposes that the Central government must come up with rules to regulate the online sale of drugs and for online pharmacies to operate "following a license or permission issued". The Bill also includes a chapter on Ayurveda, Siddha, Sowa-Rigpa, Unani and Homeopathy, and their respective Drug Technical Advisory Boards.

SOURCE: *www.biospectrumindia.com/news*

Parthvee Jain is presently working with NASSCOM to build flagship initiatives and partner ecosystems. She is an engineer with specialization and interests in fields of Biotechnology, Healthcare, Food Processing, and Nutraceuticals.

IC InnovatorCLUB
14ᵗʰ virtual meeting report

National Digital Health Mission in India: Challenges and opportunities

National Digital Health Mission In India: Challenges And Opportunities

The meeting commenced with Mr.Sachin Gaur, Director Operations at InnovatioCuris Foundation of Healthcare & Excellence, introducing the IC InnovatorCLUB and the motive behind having "National Digital Health Mission in India: Challenges and Opportunities" as the theme for the edition of the meeting. He introduced all the speakers Dr. Pushkar, Dr. Amit Raj,Mr. Abhinav Singhal and moderator Mr. Partha Dey. He also made an important announcement about the conference that will be held physically on 9th and 10th of December in partnership with IIIT Delhi. The topic of the conference will be 'National Digital Health Mission In India'. He invited Mr. Partha Dey, Founder of U4rad technologies, to moderate the session.

After thanking Mr.Sachin, Mr.Partha continued the discussion. He claimed that since it is utilised for financial transactions and other things, the National Digital Health Mission is an exact clone of UPI. It has similar healthcare experience. He claimed that we had progressed from a paper-based system to one that uses less paper. Interoperability, which will allow for paperless transactions across organisations, is on the horizon. If we take a historical look at how we first began automating or digitising a portion of an organization's operations then it is crucial to consider the data's interoperability within the organisations. Preceding further, we looked at digitising and automating data within a single department, and later, we looked at data exchange between departments so that two Health Information System (HIS) departmental flows or perhaps two Health Management Information System (HMIS) apps could communicate among them utilising the earlier protocols. It is now necessary to develop a UPI counterpart so that any healthcare data can be accessed as needed. There are three things with which we must be extremely cautious while adding additional data digitally. The first is data privacy and confidentiality, and the second is how we make sure the security of the data is maintained. Third stated that everyone should have a digital health

ID.Mr.Partha further asked Dr. Pushkar Kumar to identify himself and continue the discussion. Dr. Pushkar is the Project Director Division, Head of PHFI and a senior public health specialist. He gave a brief introduction before sharing some slides on PHFI. In 2006, the Ministry of Family and Welfare established the Public Private Partnership (PPP) known as the Public Health Foundation of India (PHFI) to serve as the partnership's public face. He listed the several fields in which the PHFI operates. Mr. Partha expressed gratitude to Dr. Pushkar for his observations on the work being done at PHFI.

Dr. Amit Raj was invited by Mr. Partha for his insights about his early opinions on the National Digital Health Mission before being called to the panel discussion. Dr. Amit Raj expressed his gratitude and underlined the urgent need for training and coaching in AI and cyber security.

He said that training in AI had benefited every field, including cardiology, paediatrics, and other fields. He said that the trust gap between patients and doctors has been closed as a result of the use of digital technology. It has been made possible by the digital strategy since using VR has helped patients understand their own disease. Mr. Partha concurred with Dr. Amit that it was quite helpful. Knowing what is going on among the patients often causes worry, and searching for information on Google can be difficult. When patients only have partial information, it might be difficult. Dr. Amit Raj then continued by pointing out that protecting patient data is a challenge. He claimed that he has run into issues with both public and private insurance providers about the protection of both their own and the patients' personal information.

Insurance companies frequently reject patients because of lack of information. Physician associates have benefited from the digital approach to data protection and patient participation in diagnostics and medicines. Mr. Partha stated that although we are the custodians of the data, ultimately the patient is the owner and is responsible for determining how and when the data should be accessed.

What do you think we need to remove as a barrier for the deployment of digital programmes, Mr. Partha questioned Dr. Pushkar? Dr. Pushkar responded by stating that one of the obstacles is the lack of internet connectivity downstairs. If we move from state urban regions to rural areas, internet connectivity has not kept up. The main obstacle would be that regular data uploading is always delayed because internet access is not good. The second most important factor is acceptability. There were obstacles in the government system for many of us, including the elder generation.With time we are progressively accepting after the epidemic and demonetization, and the government's efforts in this direction have also been quite helpful. Additionally, because health is a state responsibility, it will take considerably longer because Tamil Nadu, Kerala, and Maharashtra are more developed than Uttar Pradesh and Bihar. Things are progressing as more people are using technology, some by requirement, some by compulsion, and

Dr. Pushkar and Mr. Partha both agreed that these were the most typical obstacles. Even in major metropolitan regions, internet accessibility is not always as good as it is in rural areas. He further shared his insights and believed that it would get better with the introduction of 5G. He then noted that individuals these days are donating everything digitally, which was another point Dr. Pushkar had raised. It's all on the site. It is now possible to share and retain records digitally.

The panel discussion extended an invitation to Mr. Abhinav Singhal, founder of O2i Tech.He expressed his gratitude and noted that at this stage, digital health has become a necessity for the entire country. From data analytics and predictive health to remote monitoring, there is a necessity. The importance of having access to healthcare nationwide is now better understood after the pandemic. The crux for the present time is the easy availability, time-bound, location-independent, cost-effective, and of better standard in terms of quality. Because of this, digital health records are essential, but they also present unique difficulties. First and foremost, the information must be accurate, available

to all physicians in real time, and not all signals can be recorded. He continued by adding that although we still have a ways to go, telemedicine has a bright future and digital health will play a crucial role. An extremely useful tool for clinicians and patients alike is the perspective of infrastructure and national integration.

What problems do you have while interacting with the National Digital Health Mission portal and other providers, according to Mr. Partha's query regarding his experience if he has dealt with National Digital Health Mission People? He said that as of right now, he has not integrated with the gateway of the National Digital Health Mission. They have just been able to integrate the devices to make them available to all clinicians and patients on a real-time platform. He continued by saying that since they haven't integrated with it yet, it will be too early to assess the advantages and disadvantages.

With the session moving forward, Mr.Sachin has made an observation that large hospitals have some type of clinical evaluation team while deploying AI in the healthcare sector in India?

Mr.Partha then asked a question to Dr. Amit Raj that other than Virtual Reality (VR) and Augmented Reality (AR) what other digital initiatives are being used by him? What does he think as a clinician can we change the practice from today?

He said that constant training and teaching especially in the nursing part and availability of doctors can be addressed as a problem statement.

Then the club meeting moved forward with a Q & A session.

Mr. Partha thanked everyone and invited Vijaya Tripathi, Head of market access and patnerships for the vote of thanks.Vijaya thanked all the speakers and participants for joining the session. This concluded the meeting.

Vijaya Tripathi, is the Head of Market Access and Partnerships at InnovatioCuris. She is pursuing post-graduation in Healthcare management from IIHMR Delhi. As a hardworking and passionate person, she likes to use her knowledge and skills to work in support and favour of healthcare organizations.
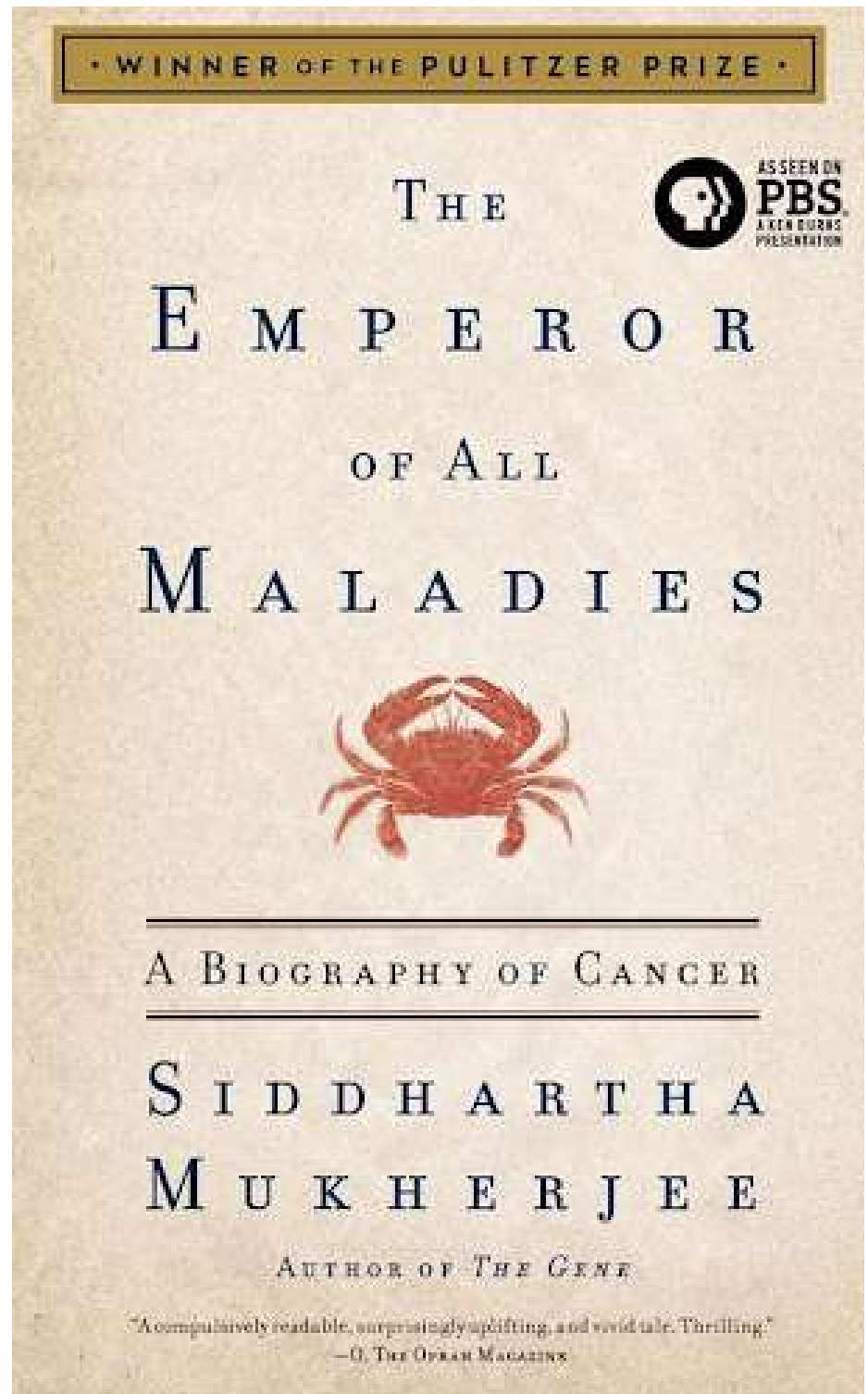
BOOK REVIEW

Reviewed by Sachin Gaur, Executive editor for InnoHEALTH Magazine

The emperor of all maladies is an apt name for this book as it talks about cancer and we all know the rising burden of cancer on healthcare. It is hard to tame the complex biological process which manifests in multitudes of forms. Yet for a layman we use one single word to describe it. The author explains at length the long journey of understanding and attempt of humans to overcome the disease. From the rather medieval methods of treatment in the early part of the 20th century trying to conquer the disease to present day acknowledgement of it being too complex to tame.

One of the key points that I derived from the book is that we know less about biology at the cell level and when clinicals look at diseases in a traditional manner they have ignored the link with genetics. The progress we have made in the last 30-40 years in solving cancer has primarily come from deeper understanding of cellular pathways and genetics.

The key message from the author here is to focus on elongation and quality of life for a cancer patient rather than eradicating cancer. As he explains cancer is fundamental to know our complex biological processes which are designed to eliminate harmful elements without impacting others. If you are interested in the deep waters of one of the long standing medical challenges for our species then this book is for you to take a dive and explore.

· WINNER OF THE PULITZER PRIZE ·

THE

EMPEROR

OF ALL

MALADIES

A BIOGRAPHY OF CANCER

SIDDHARTHA

MUKHERJEE

AUTHOR OF *THE GENE*

"A compulsively readable, surprisingly uplifting, and vivid tale. Thrilling."
—O, THE OPRAH MAGAZINE

VIRTUAL EVENT
as a SERVICE

Low Cost with a Higher Return on Investments

Modular and Repeatable

Interactive and participative

Great value for participants

Greater Outreach

Scalable and Measurable

OUR EXPERIENCE?

Domains
- Healthcare
- ICT
- MSME

Event types
- Hackathons
- Webinars
- Conferences

HIGHLIGHT PROJECTS

HIGHLIGHT PROJECTS	PARTICIPANTS	WEBINARS
European Union ICT Standardization	1800+	27
European Higher Education Virtual Fair 2016	16000+	87
European Higher Education Virtual Fair 2015	13000+	73
Knowledge series webinars with European Union & Indian clients	2000+	30
Fight Corona IDEAthon	5400+	
SAMADHAN	9000+	
Smart India Hackathon 2020	10000+	
ScanBalt Digital Forum 2020	~ 200	

PARTNERS

CONTACT

📞 +91 9643799179

✉ info@innovatiocuris.com

InnovatioCuris

Finding methods, tools and techniques to deliver qualitative healthcare at optimum cost at all levels

Our activities include

InnoHEALTH bi-monthly magazine
innohealthmagazine.com

Market access
innovatiocuris.com/market-access

Training & Consulting
innovatiocuris.com/training-and-consulting

VIRTUAL EVENT as a SERVICE
innovatiocuris.com/veaas

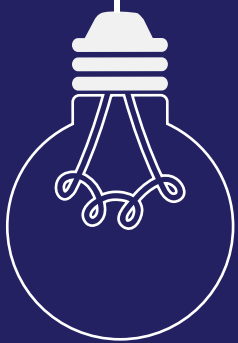**InnoHEALTH Annual international healthcare conference**
innohealth.in

InnovatioCuris Foundation of Healthcare & Excellence (not-for-profit)

Our activities include

IC InnovatorCLUB Fostering innovations
icfhe.in/icinnovatorclub

Webinars
icfhe.in/webinars

InnoBRIDGE
icfhe.in/innobridge

Experiments with sugar
experimentswithsugar.in

🌐 **www.innovatiocuris.com**   ✉️ **info@innovatiocuris.com**   📞 **(+91) 120-427-4630**

Connect with us

▶️ /innovatiocuristeam   f /innovatiocuris   🐦 /innovatiocuris   📷 /innovatiocuris   in /in/innovatiocuris-team