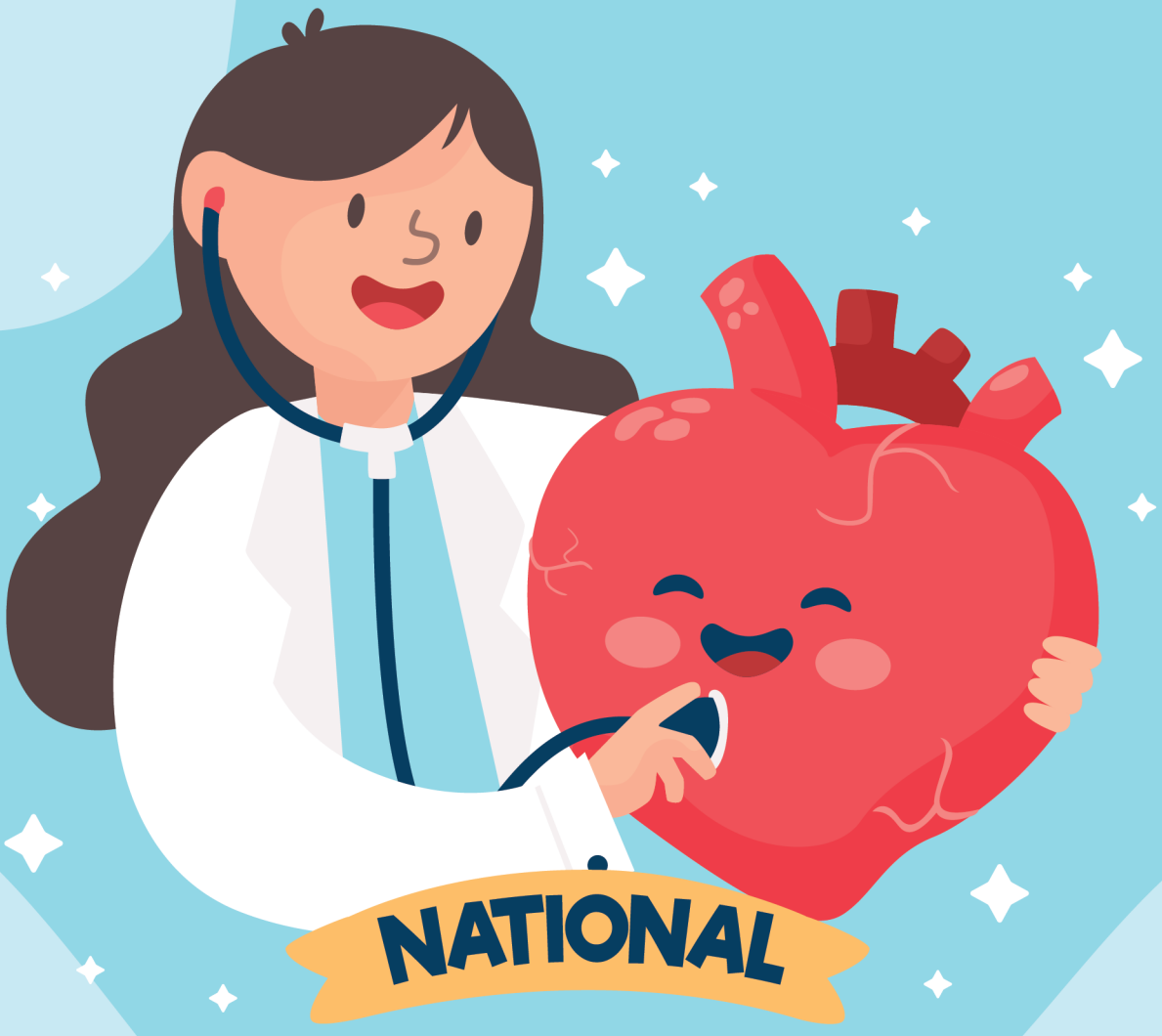
KNOWBEL

ENLIGHTENING THE NOBLES!



NATIONAL DOCTORS' DAY

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VOLUME II: JULY 2021 ISSUE NO. 7

Image: Freepik.com

KNOWBEL

Enlightening the nobles !

WELCOME !

KNOWBEL is back with a pool of mind-boggling articles filled with rare facts and famous personalities from all over the world brought to you in yet another edition!

Through the journey of reading, don't forget to pause and feel the whiff of brainstorming quizzes and contests that'll create an adrenaline chill within you! Fabulous prizes await the winners with the chance of being featured in our next issue!

We also provide you the golden opportunity to showcase your quirky talents. Spread the message among friends and family members. Just as ripples spread out when a single pebble is dropped into water, your actions can illuminate the darkroom of knowledge!

Flip the page to discover more!
Magical things happen when you read!
So, keep calm and read on...
Thank You!

SPECIAL THANKS TO

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SUBSCRIPTIONS

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http://eepurl.com/gX7gtD

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Wonderella

Never Stop Questioning !

Welcome to the most inquisitive section of the magazine where interesting answers can be discovered to some of the silliest questions in the world! So, join in to know more . . .

Why do we forget most of our dreams?

Image credits: HaticeEROL pixabay

Have you ever experienced the feeling of forgetting a dream that you saw last night? New research conducted in mice identifies a group of neurons that help reveal how and when the brain forgets dreams!
When we sleep, our brains go through four stages. The three initial stages are non-rapid eye movement (non-REM) stages.

The first stage includes the transition from wakefulness to sleep when the body slows down from its daytime rhythm and “twitches” its way to sleep. The second stage, also of non-REM sleep, involves light sleep. The third stage is deeper, and it provides the profound kind of rest that one needs to feel refreshed in the morning. Finally, when our brains do most of the dreaming, the REM sleep stage occurs. But why does the erasing of dreams occur?

New research in mice suggests that the REM sleep stage also contains a period of “active forgetting”. This most likely occurs to avoid information overload, and the neurons responsible for this forgetting are also the neurons that control the appetite!

On the flip side, brain activity can also allow someone to remember their dream more easily! This is because a region in your brain called the “temporoparietal junction” processes information and emotions. This region can also put you in a state of intra-sleep wakefulness, which in turn allows your brain to encode and remember dreams better!
However, the answer can vary from person to person while speculating why humans dream! Dream research is a broad and complex field, and dreaming can be hard to study in a laboratory! This is partly because brain activity can’t tell us about the content of dreams, and we have to rely on subjective accounts from various people!

For more info click here

Plants-Are they just silent spectators?

Image credits: canva

A recent spate in studies has proven that plants have violations, show altruism and understand kinship — just like in many animal species. Could this dramatically change how we view plants and, in turn, make us care about what happens to them the way we're concerned about threatening charismatic wildlife?

Over the years, several new studies have shown that plants are more intelligent than we think. It's tempting to believe that since plants are rooted in place, they aren't capable of the complex thought process that an animal can achieve

In 2005, Mancuso and a group of international researchers established The Society For Plant Neurobiology to study sophisticated behaviour in plants- much to the jeers to many of their colleagues. Every plant root time has a tiny region that functions as the locus of the electrical centre who are studying signals- the same signals found in human neurons. In essence, every single root apex in a plant's system can detect and monitor concurrently and continuously at least 15 different chemical and physical parameters.For a plant, a centralised neurological control center (such as human brain) doesn't matter much sense because a predator- a grazing deer or lawn mower- could easily chop it off. So instead this decentralisation scattered throughout the roots work as a very effective survival strategy; a plant can persist even if 90 percent of its roots are chipped.

For more info click here

Matter-Antimatter Asymmetry

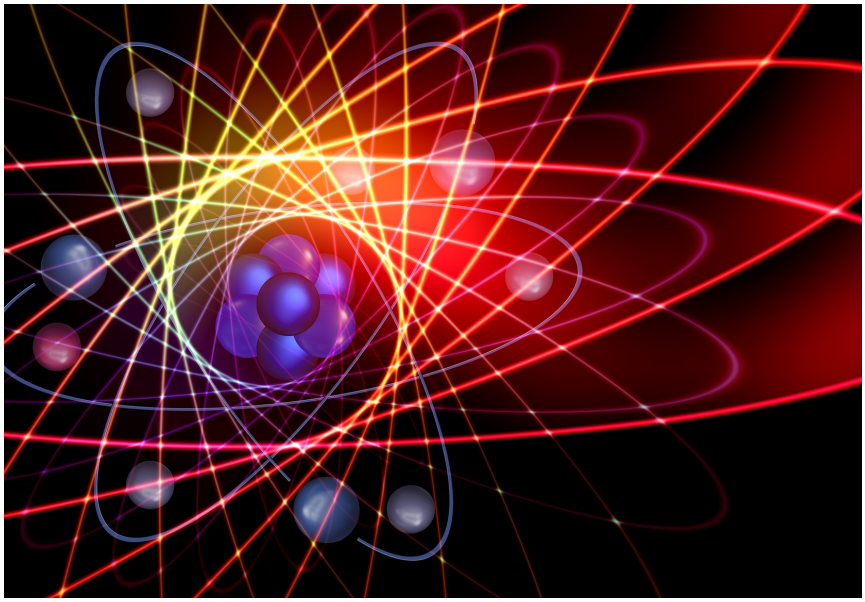


Image credits: geralt pixabay

What is matter? As per the school textbook, it's anything that has mass and occupies space. The textbook you study, the mobile phone you use, everything you see around you is made up of matter. Almost everything in the universe from the enormous galaxies to the tiniest atoms is made up of matter. You might already know that atoms are composed of particles like electrons and nucleons consisting of protons and neutrons. You might be surprised to know that these particles have antimatter counterparts. For instance, the antiparticle counterpart of an electron is an antielectron or positron.

What's the difference between these two? An electron and an antielectron have the same mass but have opposite charges. A positron is emitted during many nuclear reactions. For example, it's produced during the radioactive decay of potassium-40. Did you know that the bananas that you eat contain very small amounts of radioactive potassium-40? An average banana emits a positron every 75 minutes. This positron combines with an electron to produce light. But this is so tiny that it doesn't cause any harm to living organisms.

Now, generally speaking, what's the difference between a particle and an antiparticle? A particle and its antiparticle counterpart have the same mass but differ in other properties like charge. Another interesting phenomenon is that when matter and antimatter come together, they annihilate- releasing large amounts of energy. Therefore, whenever an antiparticle comes into contact with ordinary matter, it annihilates, releasing energy.

Particle and antiparticle are always produced in pairs. The process of conversion of energy to particle and its corresponding antiparticle is called "pair production".

Then why do we observe the abundance of matter in the universe with only teeny tiny bits of antimatter?

In the early universe, soon after the Big Bang explosion, matter and antimatter should've been produced in the same amounts. But in the present universe, we observe matter all around us with very little antimatter in the entire universe. What might be the reason for this?

Something must have happened in the early universe that favored the production of matter against antimatter. There's a beautiful illustration of this. Let's consider an unbiased coin.

There's a 50-50 chance for the coin to show head or tail. But let's consider that something happened to cause all the coins to land on their heads. Something similar happened in the early universe that caused the formation of matter. But nobody knows what exactly that mechanism was. It's a hot topic of research in the scientific world.

For more info click here

Who produces Earth's oxygen?

O2

Image credits:Bilas Baisch unsplash

Have you ever stopped and wondered where the oxygen we breathe every day comes from?

You might be under the impression that it would mostly come from trees and rainforests, but it turns out that over half of the Earth's oxygen comes from the ocean. The ocean is home to a variety of photosynthesizing organisms like- phytoplankton, drifting plants, and some bacteria. These organisms grow by converting carbon dioxide into complex organic compounds while at the same time releasing oxygen as a byproduct. It might surprise you to know that even though the oceanic species.

Prochlorococcus is the smallest photosynthetic organism on the Earth, it still produces up to 20% of the oxygen in our entire biosphere.

Phytoplanktons play a crucial role in the ocean and determine the ability of an ocean to sustain life. Although the ocean produces up to 50% of Earth's total oxygen, it's important to note that approximately the same amount of oxygen is consumed by marine animals in a process known as respiration.
Therefore, on average, there is no net flux of oxygen coming into the atmosphere from the oceans. The forests and oceans are not taking in or giving out any more oxygen and carbon dioxide than they are producing. Due to human interference and destructive behaviour, the amount of carbon dioxide in the atmosphere is increasing, which has caused global warming.

For more info click here

Can planting trees alone save earth

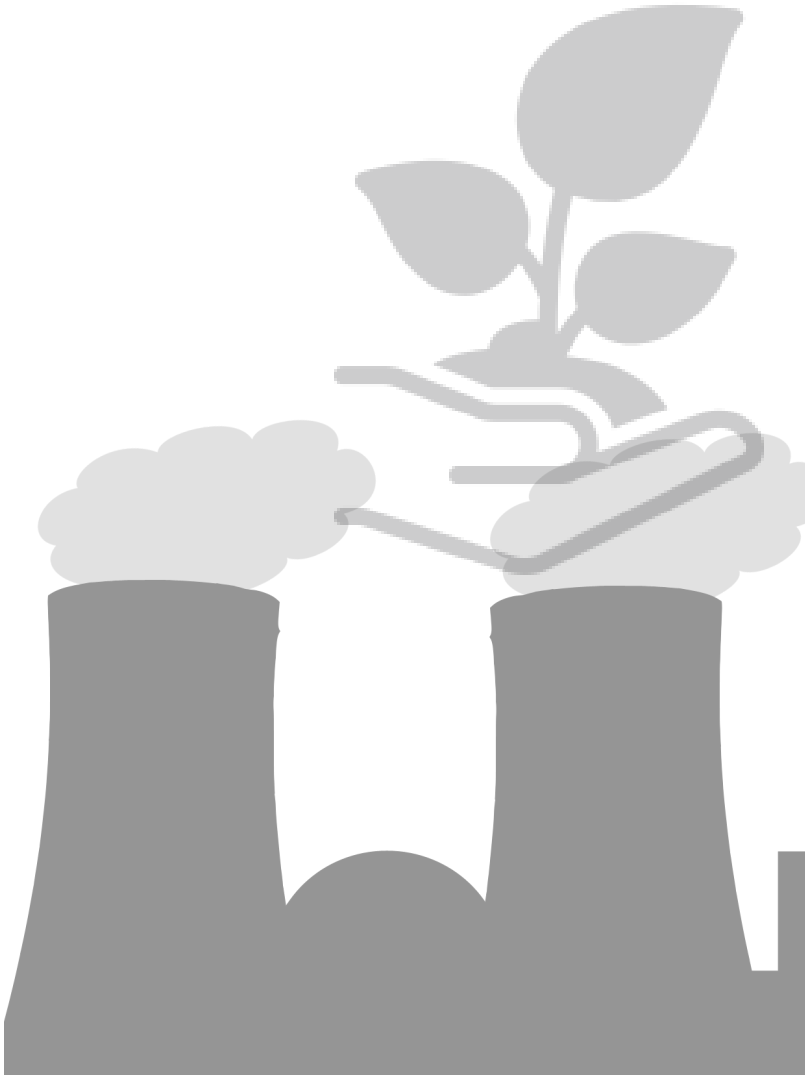


Image credits: Canva

Planting trees appears to be the most promising strategy for safeguarding our future and a trillion of them are estimated to remove so much carbon from the atmosphere that we won't need to worry about solar panels or quitting the SUV in favour of an electric vehicle. “If only it were the case”. Just planting trees to reduce the climatic change is a flawed and disillusioned idea. This is often exploited by the appealing promises made by many corporations, who offer to plant trees with a portion of the earnings they gain from selling us environmentally harmful products.

Now, why is it that, despite its allure, planting trees is not the most effective way to save us from the climate crisis? There are several causes for this.

Planting a 1 trillion trees would require a land area roughly to the size of the USA which, given the increasing urbanisation and metropolitan areas, is improbable. Furthermore, each location would necessitate the planting of certain tree species that would suit the region's climatic circumstances and biodiversity. Planting new species of trees in a different ecological space is altogether catastrophic.

Even if we assume that we somehow miraculously achieve our aim of planting a trillion trees without disrupting the natural area, they will require adequate maintenance, which would require a tremendous amount of money and labour. On average, it takes 5-6 years for trees to completely mature and be able to absorb sufficient amounts of CO2. As a result, this solution will not fix the immediate problem.

Planting trees is never a bad idea but living in an illusion that only planting trees would make it all right is the thought we need to change. Climate change is not as straightforward as it appears; it has many faces, and a single answer will not save us. We must strive to cut our present carbon emissions while also lowering plastic and electronic waste.

A sustainable lifestyle would protect us from the negative effects of climate change. Then, as a cherry on top, you may always go ahead and plant as many trees as you like.

For more info click here

FACTASTIC

Image from Wikimedia Commons

Diverging Moon

Millions of years from now, we will be able to see a large galaxy and a tiny moon. Do you know why? It has been observed that the moon is constantly moving away from the earth whereas the Andromeda galaxy is constantly moving towards the Earth.

What's in a Name?

The longest word in the world is 85-lettered which is a place in New Zealand. Good luck taking a cab to here!

Image by russellstreet from flickr.com

Image by Free-Photos from Pixabay

To B

We know ‘b’ is the second letter of the alphabet. But while writing the names of numbers like one, two, three, etc., it would only appear until you reach 1 billion!

Brain Balance

Ever observed coordination between your eyes and ear? If you pour cold water into a person’s ear, their eyes will move in the direction opposite to that of the ear. If you pour warm water, then the eyes will move towards the ear. This is used to test for brain damage and is called ‘Caloric Stimulation’.

Image by Beth from flickr.com

Image from Wikimedia Commons

Pangrams

The most widely used pangram is the one that has been used for a long time to test typewriters or keyboards: The quick brown fox jumps over the lazy dog.

Image from Wikimedia Commons

Handy Vocals

No other bird except the lyrebird can mimic any sound that it hears. This includes artificial sounds like that coming from a siren, a chainsaw or a camera shutter.

Greener Energy

We have observed that solar panels are mostly made of Silica. But scientists have discovered that some rock materials also possess the ability to act as natural solar panels and eventually convert light into electricity. These rocks are mostly found in the desert and have coatings of iron and manganese. According to IFL Science, "The weaker the light, the lesser the current, demonstrating that the coatings are turning the photons into moving electrons. The coatings are also quite stable, so generation probably lasts all day."

Image by Karen Swain/NCMNS

The Quizopedia

-ARE YOU READY FOR THE CHALLENGE?

Is your mind slowly going stale? Did you pride yourself on being the 'Know-it-all' in your class? Well, here's a chance to flex your grey cells and bring them back to tip-top shape. KNOWBEL presents to you 'Quizopedia'. I, Aditya, the quizmaster, have selected 10 of the most sizzling questions for you to crack. Note that these questions have an underlying connection.

Check out the instructions below:

The QR code below will take you to a Google Form, which contains a quiz consisting of 10 questions. You must answer all the questions and try to get them correct. You are free to make wild guesses as there is no negative marking! The names of the winners would be published in the upcoming issue, and the winner of the contest will receive prizes worth Rs. 250.
Answers shall be officially released via mail on July 25, 2021.

The winners would be chosen based upon:
1. Number of Correct Answers
2. Time of Submission

Competition begins on: July 2, 2021, at midnight
Last Date for Submission: July 20, 2021

18th Quizzo winner

Pushpendra Pandey
IISER, Pune

Scan or click on the QR code below:

1. What words were inscribed on the first postage stamp issued in independent India ?

a) Vande Mataram b) Jai Hind

c) Satyamev Jayate d) Azad Hind

2. Which is the southernmost point of the continent of Africa ?

a) Cape Horn b) Cape Agulhas

c) Cape of Good Hope d) Cape Hatteras

3. Who was the first woman to produce a Hindi film, in which she also acted ?

a) Nasreen b) Kamla Bai

c) Fatima Begum d) Zubeida

4. Which sect was founded by the Agra banker Shiv Dayal Saheb in 1861?

a) Radha Soami Satsang b) Namdhari

c) Brahmakumari d) Deva Samaj

5. Arati Pradhan became the first woman in the world to swim across which water body in 1988?

a) Bosphorus b) English Channel

c) Strait of Gibraltar d) Palk Strait

6. Yuvraj Singh: Stuart Broad :: Ravi Shastri : _____?

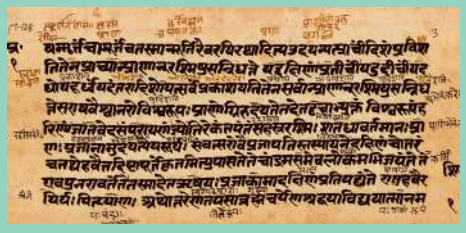
a) Tushar Arothe b) Arshad Ayub

c) Rajinder Goel d) Tilak Raj

7. Which of these was the precursor of the Devanagari script?

a) Siddhamatrika b) Newari

c) Sharada d) Pali



8. Who was the first film personality to be honoured with the Bharat Ratna ?

a) Satyajit Ray b) Lata Mangeshkar

c) MS Subbulaxmi d) MG Ramachandran

9. Which human organ did Christian Barnard first successfully transplant ?

a) Liver b) Heart

c) Kidney d) Spleen

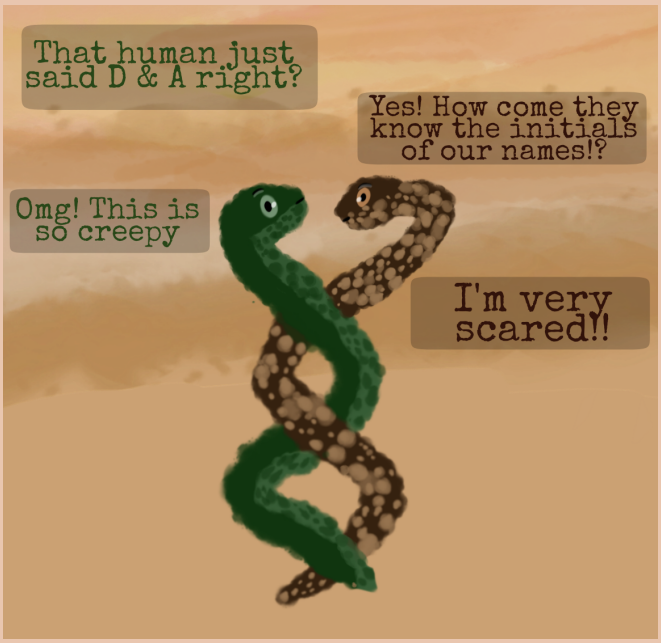
10. Who is the only Indian to score a hattrick in Olympic football ?

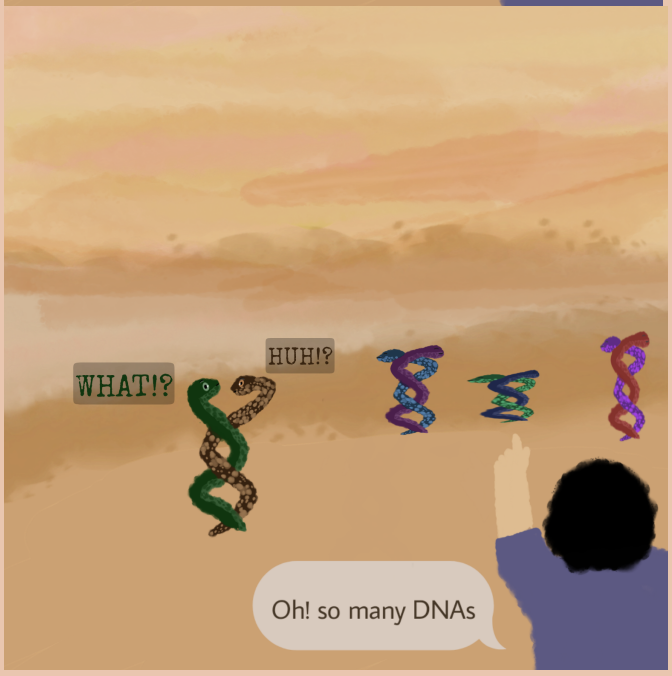
a) Shabbir Ali b) Baichung Bhutia

c) Neville D'Souza d) PK Banerjee

Plot-twist

by Aishwarya Juneja





INSPIRON

DR. GAGANDEEP KANG

Dr Gagandeep Kang is an eminent Indian virologist and one of the leading clinical researchers of India. She is a Professor at the Department of Gastrointestinal Sciences at the Christian Medical College, Vellore. On the occasion of National Doctor's Day, let's get to know more about her life and her contribution to Science, Medicine and Public Health.

The Inspiring Story

Dr Gagandeep Kang is an eminent Indian virologist and one of the leading clinical researchers of India. She is a Professor at the Department of Gastrointestinal Sciences at the Christian Medical College, Vellore. On the occasion of National Doctor's Day, let's get to know more about her life and her contribution to Science, Medicine and Public Health.

Dr Gagandeep Kang was born on 3rd November 1962 in Shimla, Himachal Pradesh. Her mother was an English and History teacher, while her father worked as a mechanical engineer in the Indian Railways. She also had a younger sister, and both were blessed to have supportive parents. Since her father had a transferable job, Dr Kang moved around a lot during her childhood, most of which was spent in the northern and eastern parts of the country.

As Dr Kang often recalls, she had to change schools frequently and thus ended up attending ten schools in total! Not only did this expose her to diverse cultures, but it also made her more adaptable.

Dr Kang loved performing scientific experiments since her childhood. She set up a small lab at her home at the age of 12, with the help of her father. She had been interested in Physics, Medicine, and History but decided to pursue Medicine. Dr Kang joined the Christian Medical College (CMC), Vellore, Tamil Nadu, for an MBBS degree. She completed her MBBS in 1987 and her MD in Microbiology in 1991 from CMC Vellore. Following this, Dr Kang participated in community research by joining a group within CMC called the Welcome Trust Research Laboratory. She liked community research and decided to pursue a PhD in Microbiology from CMC itself, which also caused her to land in Gastrointestinal research.

During the same time, she married a fellow neurosurgeon. She also had her two sons during her ongoing PhD, which made managing things difficult. Her family and close friends supported her and lent a helping hand in those times. She went abroad to pursue her postdoctoral research. She worked at the Royal College of Pathologists in the UK and then at Dr Mary Estes' lab at Baylor College of Medicine, Texas, USA. Dr Estes was a virologist who studied viruses that caused Gastrointestinal diseases. Among these, one family of viruses was called 'Rotaviruses'.

Rotaviruses are a family of viruses that infect the gut of human beings. Children are especially susceptible to such infections that cause severe diarrhea, inflammation, dehydration, gastroenteritis, etc. After returning to India, Dr Kang and her team conducted extensive large-scale field clinical studies for understanding rotavirus infections for over 30 years. Combining that with laboratory investigations, Dr Kang and her team were able to find critical insights into the disease. The comprehensive research contributed significantly to understanding the genetic diversity of the viruses, their epidemiology, and their burden on the Indian population. In addition, the team also found that the Indian population is genetically less resistant to the virus, thus adding to the problem.

The team, through their efforts, were able to come up with a diagnostic test to detect the virus. They also tried creating an oral vaccine for rotaviruses and optimising its efficacy. Their efforts lead to the development of vaccines for the treatment of rotavirus, which is - Rotavac (by Bharat Biotech) and Rotasiil (by Serum Institute). These vaccines are WHO approved and are also included in the National Immunisation Programme of India. Dr Kang played an instrumental role in the vaccine development and hence is also known as the 'Vaccine Godmother' of India.

Moreover, she has worked on developing vaccines against typhoid and evaluating its efficacy. Being involved with the community, she has also made attempts to raise awareness regarding water safety, sanitation, accessible healthcare for children, etc. Dr Kang has always supported finding local solutions to indigenous problems and promoted high-quality Indian research. Hence, she takes pride in these achievements and calls it - "A vaccine for India, by India, & in India!"

Dr Kang has over 300 scientific publications throughout her career and is on the editorial boards of several prestigious journals! She is also a part of several national and international advisory committees primarily related to vaccines and has received numerous honorary appointments. She is a fellow of all three national academies - the Indian Academy of Sciences (2011), the National Academy of Sciences (2013), and the Indian National Science Academy (2016). Among the plethora of her extraordinary awards, some are - Woman Bioscientist of the Yearś (2006), Ranbaxy Research Award 2013 for Medical Research (2014), and the Infosys Prize in Life Sciences (2016).

She has also served as the executive director of the Translational Health Science and Technology Institute (THSTI), Faridabad, a national institute funded by the Department of Biotechnology, Government of India. Most importantly, Dr Kang is the first Indian woman to be elected as a Fellow of the Royal Society in 2019, in the 360-year-old history of the oldest scientific academy. In recent times, she participates in various forums and national, international committees to contribute to the battle against COVID-19, spreads awareness regarding the pandemic and vaccines and shares her invaluable expertise.

Dr Gagandeep Kang has become an icon for countless people through her work and her contribution to Medicine. Her incredible journey has inspired thousands, if not millions, of women, doctors, scientists and many others worldwide!

For more info click here

All image credits: Ritu

POETICA

Underrated Legends

They work day and night
To save you in your flight
of life
They work day and night

They wear PPE kit
to make you fit
So that you flit in joy
They wear PPE kit

Due to all this
They are hardly in a state of bliss
Imagining the kiss
Of the Lord above

Even after facing all this
Some blatant people will
Beat them up
with stones and bones!

They can bare for you
You care for them
Doctors of Earth today
Are the gold of the world!

By Ansh Gaikwad, Class VIII, APS, Dighi (Pune)

ASK THE EXPERTS

An interview with
Dr. Monika Bhupesh Tabhane and
Dr. Abhijit Valanju

Interviewers: Asmi Gaikwad,
Atharva Valanju and Shreya Kulkarni

Dr. Monica Tabhane

Dr. Abhijit Valanju

On the occasion of National Doctor's Day, which falls on the 1st of July, Asmi Gaikwad, Atharva Valanju and Shreya Kulkarni from KNOWBEL had the privilege to interview two of the frontline COVID warriors who have devoted their lives for the service to the nation.

It was an honour to talk to Dr Monica Bhupesh Tabhane and Dr Abhijit Valanju and receive their valuable insights.

Why did you choose to become a doctor, and what sacrifices have you made for the same? How do you find this profession?

Dr Monica Tabhane: I chose to be a doctor because I was a fan of this profession! Unlike other professions, here, you are in direct contact with patients. Moreover, entrance exams and other college theory and clinical exams forced me to concentrate more on academics while studying 19-20 subjects simultaneously, making my journey tough.

Dr Abhijit Valanju: This profession helps you to connect with people and help them when needed. It has always been thought of as a noble profession where we can get connected with people directly. It is very easy to interact with them as they are open to you and reveal everything. So you can talk to them and aid them just like a friend.

What challenges did you face being a female doctor?

Dr Monica Tabhane: Like every profession, the medical profession is also male-dominated! The time to achieve this professional degree takes about 8-9 years, including five and half years of MBBS and three years of post-graduation, to earn a good job! This makes it more challenging. Moreover, when girls turn 26-27 years, they are pressured by families to get married. However, in the case of males, they can go up to 34 years without much hindrance from families.

Describe the challenges you faced during COVID-19 (PPE kit, oxygen kit, beds, long duty hours, shortage of doctors, ways of handling emergencies and workload etc.)?

Dr Monica Tabhane: COVID was a situation where most doctors were the frontline COVID warriors. There was a scarcity in the number of doctors as the number of patients outnumbered the estimated ones. Doctors from other departments were diverted to the COVID ward. Also, the actual number of specialised doctors were few. Most others also suffered academic losses. We were sweating inside the PPE kits and could barely breathe, which caused us to take double the time expected to check B.P., pulse, etc. It was a traumatic situation.

As you mentioned that you are working in GMC Nagpur, the government hospitals were constantly flooded with patients, and as compared to private hospitals, they had fewer resources. How was your experience regarding that?

Dr Monica Tabhane: Despite being one of the biggest tertiary care centres, the resources at the hospital were sparse. There were some materials bought out of the PM Cares fund, but they couldn't suffice. So people from the Vidarbha region as well as the MP region showed up here. Also, the hospitals were not prepared to tackle so many emergencies. For example, the number of patients outnumbered the number of ventilators, oxygen cylinders and beds in the hospitals. There was also a shortage in the number of ambulances. Due to all this, we could find patients sitting outside hospitals who made their arrangements of oxygen cylinders. Many critically ill patients also lost their lives because of the same.

How did you manage to maintain your health among so many infected patients? What precautionary steps did you take?

Dr Monica Tabhane: In COVID, nutrition and hydration are the two most important things. I continuously kept myself hydrated by drinking water every hour. Since my home was nearby, I could get nutritious food at home, which my parents prepared. Along with that, I also ate Vitamin C tablets and Zinc as a prophylactic. These multivitamin tablets plus nutrition saved me from being infected. Many other doctors who were hostel dwellers often faced problems when the mess food was not available. As a gesture of acknowledgement, many recovered patients donated masks, etc. These generous donations helped us sail through the pandemic.

How would you describe the patient-doctor relationship at the time where there was no pandemic, currently and then in the post-pandemic situation?

Dr Monica Tabhane: Doctor-patient relationship was an essential factor during the pandemic. Earlier, patients were allowed to meet their relatives, but now, the doctor served as the messenger. So, we had to be kind and generous with the people and explain to them the condition of the patient and the severity of the situation. Also, during the pandemic, doctors got less time to interact with the people, so misunderstandings eventually led to attacks on doctors expressing frustrations. People used to feel that the doctor had done something wrong while treating the patient if their health was supposed to be healthy a few days ago, and their condition started deteriorating drastically. In the post-pandemic era, we could see some improving relations between doctors and patients where the patients obeyed most of the advice by the doctor.

What is your opinion regarding the changing doctor-patient relationship? (attacks on doctors, etc.)

Dr Monica Tabhane: Seeing it both ways, we can understand the emotional situation when the relative cannot meet the patient. It's also hard for them to understand. But they should also see how much a doctor has sacrificed only to treat the patients. Also, some amount of respect from the patients, their relatives towards the doctors would be appreciated. Medicines also have their limitations. The doctor is a human at the end of the day. He isn't a God. This understanding is also expected from the patients and their relatives.

What, according to you, has been the rarest and most difficult medical case that you have ever handled in your years of experience.

Dr Monica Tabhane: In my opinion, COVID has been the most difficult case. Not only this but mucormycosis, which is a fungal disease, also came hand in hand. Diabetic patients are suffering the most since their sugar levels fluctuate continuously.

Being a doctor, what message do you wish to convey to our readers regarding the maintenance of health, hygiene and sanitation?

Dr Monica Tabhane: I would like to say that COVID was a blessing in disguise. I know many people would disagree with me. But owing to the pandemic, we have started maintaining hygiene at least. Only washing your hands is not enough. You also need to wash your face and legs. Maintain routine mouth hygiene, too, like gargling, brushing your teeth at least twice a day. Mouth hygiene also prevents mucormycosis. Also, don't forget to splash your eyes with cold water to avoid infections. Work is important. But keeping yourself healthy should be the priority because you work well only when you are healthy.

You mentioned that being a doctor was always your goal from the start. Since you have had the experience of so many years, is it still your dream job?

Dr Monica Tabhane: It still is! It gives you a different satisfaction when you treat a patient, and they recover. You see him recovering in front of your eyes. So it is a different level of satisfaction. When the patient gets well, and you discharge them, and the patient goes home safely, you feel contentment. But at the same time, when the opposite of it happens, and you can't save the patient, it is equally depressing. So because of this satisfaction, I would like and continue to work as a doctor. But sometimes it's also hectic. At times, long duty hours without breaks often disrupt my mental peace, and I feel like doing something different.

I have observed that no matter how tired a doctor may be from inside, he always wears a cheerful smile on his face while treating patients. So how does that help?

Dr Abhijit Valanju: Though we are tired after working for long hours, we still examine the patient with a smile because the patient can see hope in our eyes. His hopes are dependent only on the way we interact, and indeed, the patient would not like to see a dull face and interact.

There are many times when you have to work for long hours without breaks. So how do you still manage to do your best?

Dr Abhijit Valanju: We doctors were trained for such situations in our initial college days while doing MBBS. Long hours of training include attending a single patient continuously for three to four hours, and even 24 hours don't seem to be enough. Hence, when we are asked to work for long hours in the future, we are used to it, and we can go ahead without breaks.

There is no end to diseases, and in December 2019, the entry of the novel coronavirus caused hospitals to be flooded with patients. So how did you tackle such emergencies?

Dr Abhijit Valanju: Earlier, we were not prepared and had no idea what was going on. But as time progressed, we understood how and what problems the patients were facing. Doctors can only fight the disease. But adequate care has to be taken by the general population first. Try preventing overcrowding at places, and the infected people should stay in their house for 7-10 days to avoid spreading it to other citizens. Take medicines if required and go out only if necessary. These are some of the measures which could get the disease under control.

What were the immediate shortcomings of the healthcare system? And how were they immediately tackled to address the pandemic?

Dr Abhijit Valanju: There were major shortcomings. The government was not prepared for all this. Health infrastructure in India isn't properly developed. Not many arrangements were made for the general public. For instance, the elite class could go to certain hospitals while the poor people had to go to general hospitals. Only a few months later, jumbo-care facilities were created by the government and by that time, the disease had already spread far and wide. And slowly, as the infrastructure improved, the ways of handling emergencies also improved gradually.

What are some of the gestures that patients have done to acknowledge your efforts?

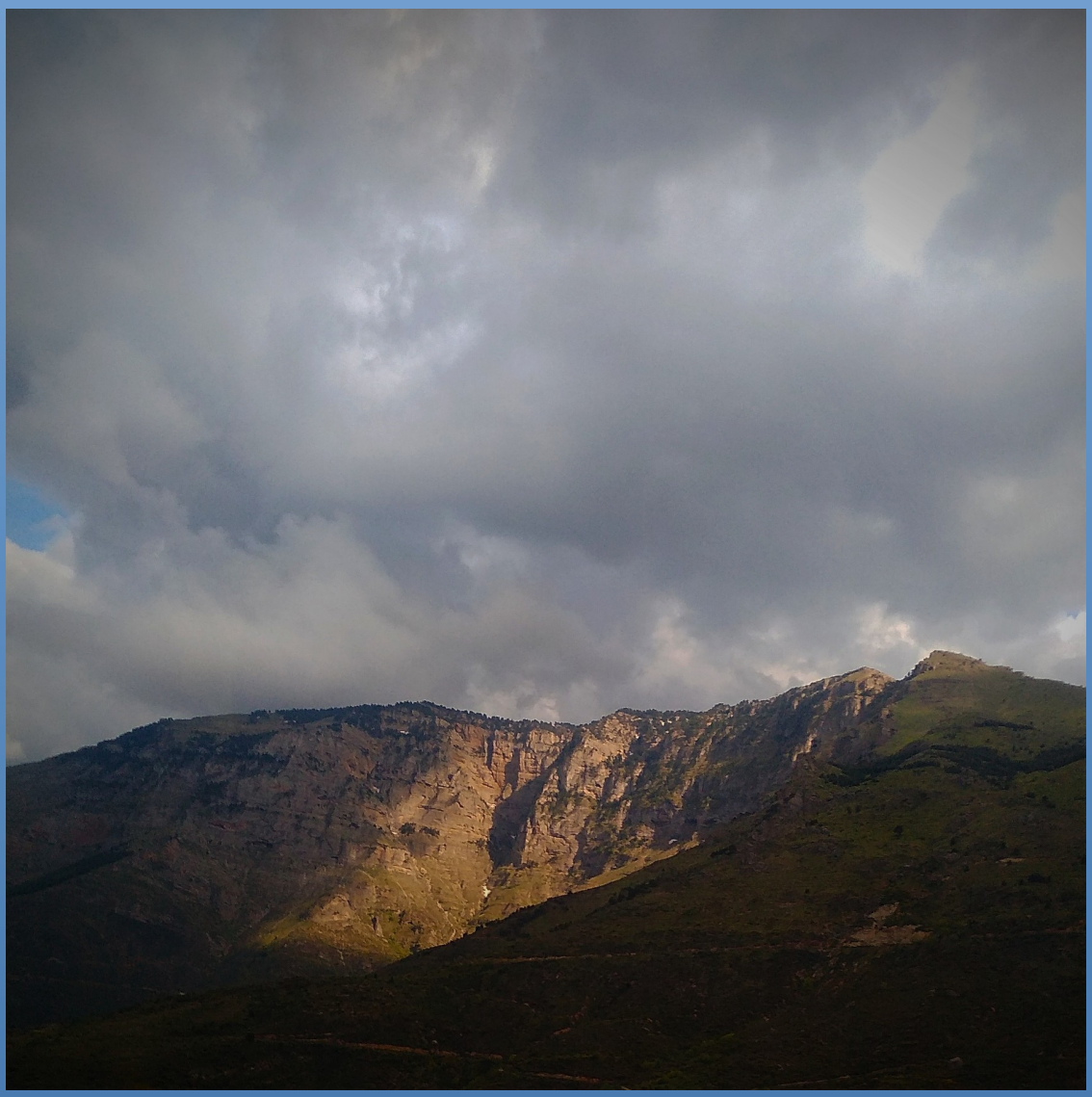
Dr Abhijit Valanju: Whenever a patient is treated, matters are discussed openly among relatives, patients, and doctors. But in this pandemic, the patient was completely alone. No family member was allowed to visit him. There was mental trauma. But apart from all this, few patients genuinely gave greeting cards and acknowledged the doctors later. This is something that was appreciable.

People sometimes tend to consult Google to diagnose something on their own. So what are your views about this?

Dr Abhijit Valanju: That's the easiest way for people to diagnose what they have. Dr Google is always going to be there and is not going to disappear. What we perceive and search is quite different from talking with a doctor and answering his questions. You may perceive a disease differently, but Google will not understand what is happening inside you. If you read everything carefully on the Internet, it is written that this is not authenticated advice, but nobody goes to that line. Everybody wants to read only the first two lines. The problem arises if you believe the doctor less than Google. If you have enough faith in your doctor, you can still follow Google for emergencies or to understand what is happening with you. However, that still doesn't replace the doctor.

What have been some recent changes in medicine that you are excited about?

Dr Abhijit Valanju: Recently, there has been a lot of development in robotic management and telemedicine. There has also been a massive development in the forms of treatment, or preventive measures that we previously had never thought could be developed so fast. It is really good to know that science is progressing so far that we can develop things that take us 10 to 12 years, within six to ten months or one year. It is very heartening for a doctor to know that the treatment we might not have thought possible for a long period can become possible because of the changes around us.



~click by Vaibhav Ingale

"A bird does not sing because it has an answer, it sings because it has a song."

~Maya Angelou

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