



FOREWORD

MediTimes from the desk of Medical Services brings the latest trending healthcare news.

The **In focus** latest medical news comprises of articles on **'Study Uncovers - What Makes Viruses Infectious?' and 'Myth busters about Weight Loss'**.

Disease of the Month presents information about – **'Migraine Headache**

The COVID-19 infohub focuses on knowing about the **Indian Covid-19 vaccine update**.

The greens for health section, in this issue provides an insight about the health benefits of **MINT Leaves**.

Hope this January 2021 issue of Meditimes would be an informative reading

Happy Reading!!!

Best Regards,

Dr. Manjula S

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LATEST MEDICAL NEWS



Study Uncovers - What Makes Viruses Infectious?



Medical Myth: Weight Loss

COVID-19 INFOHUB



Indian Covid-19 Vaccine Update

DISEASE OF THE MONTH



Migraine Headache

GREENS FOR HEALTH



MINT



FUN CORNER

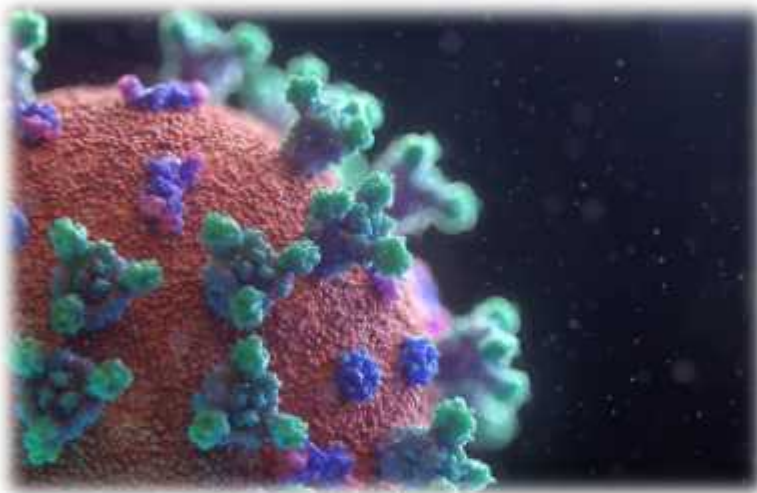


DIMAG KI BATTI JALAO!



Study Uncovers - What Makes Viruses Infectious?

The study published in the journal *PLOS Pathogens* creates opportunity that the anti-viral drugs could be developed in such a way that it would stop infections



Picornaviruses represent an important class of viral pathogens that the way these viral particles assemble their virions to cause an infection is still not completely understood. This may be a hindrance in the development of anti-viral drugs or vaccines.

Viruses spread their genetic material to other cells once they infect, which involves the production of what are known as

virions – the newly formed viral genetic copies, which have the ability to further cause infection. Each virion carries a copy of genetic code of the virus. The virion assembly would make an ideal target for anti-viral therapy

This study collaborated electron microscopy determination of molecular structure of the virus and the reverse genetic assays of viral variants

The research involves identification of multiple RNA sites across two genomes of enteroviruses, Enterovirus E and poliovirus. Enteroviruses also constitute human rhinovirus that is responsible for causing common cold.

The study results were consistent with the hypothesis that RNA packaging signals play a key role in the casing of viral proteins which leads to a successful viral infection by replication.

By employing both molecular and mathematical biology, the researchers identified the possible sites on RNA strands known as RNA-CP contacts which could act as packaging signals. The cryo-electron microscopy has made it possible to visualize this process

Knowledge in depth about how the casing processes take place would open up opportunities to develop anti-viral drugs which target the specific sites on the viral genome and prevent the viral infection.

Chandler-Bostock R, Mata CP, Bingham RJ, Dykeman EC, Meng B, Tuthill TJ, Rowlands DJ, Ranson NA, Twarock R, Stockley PG. Assembly of infectious enteroviruses depends on multiple, conserved genomic RNA-coat protein contacts. PLoS Pathog. 2020 Dec 28;16(12):e1009146.



Medical Myths: Weight Loss

As it's the dawn of 2021, many people would have weight loss in their resolution list. Some confusions do persist when it comes to dieting and losing weight. But, there are some widely held myths which exist among people which are addressed below.



➤ **Not having breakfast helps in weight loss**

The common concept that skipping breakfast aids weight loss may seem unlikely to serve the purpose. Sometimes, people who skip breakfast tend to eat more during the rest of the day in order to compensate. Studies have shown that skipping breakfast has a stronger association with overweight than either alcohol consumption or levels of inactivity.

➤ **'Fat-burning' foods can aid in weight loss**

Some foods such as pineapple, ginger, onions, avocados, chillies, broccoli and garlic are referred to as 'fat-burning' foods. But, there is very little scientific data these foods can help one lose weight.

➤ **Supplements for weight loss are of value**

Though certain supplements claim to help in reducing weight, they can possibly be ineffective, dangerous or both. The Food and Drug Administration (FDA) reports that many products come with the label in which the unsafe ingredients are missing or the ingredients that have no scientific evidence about the effect in humans.

➤ **Low fat foods may play a key role**

Low fat foods are likely to contain less fat. However, these products sometimes are compensated with added sugar or salt. Checking the label is the key. Also, it is worth noting that "reduced fat" does not necessarily mean "low fat," but simply that the fat content of a product is lower than its full-fat version.



➤ **Snacking and treats not allowed**

Stigma exists among people that snacking heavily disrupts their weight loss journey. However, it is not so much snacking itself, but what one snacks upon that counts. Having a piece of fruit or some low fat yogurt/dry fruits between meals, for instance, might reduce food cravings, keeping a person from overeating or end up having junk. The British Heart Foundation explains- "Depriving yourself of all the foods you enjoy won't work. You'll eventually give into temptation and abandon your efforts. There's no harm in allowing yourself a treat now and again."

➤ **Cut out on all sugars**

A person who is on a weight loss regime may need not completely eliminate sugar from the diet. Moderation always plays an important role. It may be better if foods with added sugars are avoided. There also exists a rumour that sweetening foods such as honey or maple syrup may be better compared to the white sugars. Our bodies process sugar in the same way. All types of sugar provide around 4 calories per gram.

➤ **Fat in specific areas can be targeted**

Some people want to lose fat from certain areas, such as the thighs or abdomen. In reality, this targeting might not work. Inter-individual differences exists when it comes to weight loss, and we cannot choose which bits of fat will go first.

Weight loss can be challenging, as our bodies are designed to take calories and store it. Reducing the calorie intake and exercise can be helpful. However, people with chronic conditions such as diabetes and obesity should unlearn the body type before beginning a weight loss regime. When it comes to weight loss, instant or rapid results cannot be seen. Most foods are not inherently unhealthy, but it is a good idea to consume high-sugar and high-fat foods in moderation.

Croezen S, Visscher TL, Et al. Skipping breakfast, alcohol consumption and physical inactivity as risk factors for overweight and obesity in adolescents: results of the E-MOVO project. *Eur J Clin Nutr.* 2009 Mar; 3 (3) 405-12.

British Forslunur, Klingström S, Et al. Should snacks be recommended in obesity treatment: A 1-year randomized clinical trial. *Eur J Clin Nutr.* 2010 Nov; 64(11):1308-17.

Azad MB, Abou-Setta AM, Chauhan BF, Rabhani R, Lys J, Copstein L, Manjivarama MM, Ried AE, Fader M, Manlay DS, McGroarty J, Wicklow B, Zarychanski R. Non-nutritive sweeteners and cardiometabolic health: a systematic review and meta-analysis of randomized controlled trials and prospective cohort studies. *CMAJ.* 2017 Jul 17;189(28):E929-E939.


Available at: <https://www.fda.gov/consumers/consumer-updates/beware-products-promising-miracle-weight-loss> (Accessed on 11th January 2021)



India's COVID-19 Vaccine Update

As India conducted the second-dry run for Covid-19 vaccine rolled out on January 8, 2021, it is necessary to take a look at the framework of last-mile vaccine delivery, which includes real-time, remote temperature monitoring and capturing vaccination data in an electronic database.

The Beneficiaries


30 crore
people to be vaccinated in the first phase, including



1 crore
health workers



2 crore
frontline workers



Approximately
26 crore
senior citizens and people with comorbidities



The Vaccine Route

After being airlifted from the vaccine manufacturing site, the vaccines will be stored at four government medical store depots in:



From here, the vaccines will be transported by refrigerated vans to state and district vaccine stores and then to primary health care centres, from where they will be moved in a vaccine carrier to the sub-centre vaccination site

Data Mapping

The Co-Win platform developed by the government will register beneficiaries, allocate vaccination sessions and also administration of the dose.

- ◆ It will be integrated with Aadhaar for authentication
- ◆ Beneficiaries will receive an SMS with details of the dosage, and date and time of the next one
- ◆ Linked to DigiLocker for document verification
- ◆ Linked to SafeVac to monitor adverse events following immunisation
- ◆ Creating electronic dashboards and reports

SOURCE Ministry of health and family welfare



Indian Covid-19 Vaccine Candidates

- The **Covishield** vaccine made by Serum institute of India, partnered with British pharmaceutical company AstraZeneca
- **COVAXIN**, India's indigenous COVID 19 vaccine by Bharat Biotech - developed in collaboration with the Indian Council of Medical Research (ICMR) National Institute of virology (NIV).
- **ZyCoV-D1**, being developed by Ahmedabad-based Zydus-Cadila
- Vaccine being developed by Hyderabad-based **Biologics-E** the first Indian private vaccine making company, in collaboration with US-based Dynavax and Baylor College of Medicine
- **HGC19**, India's first mRNA vaccine made by Pune-based Genova in collaboration with Seattle-based HDT Biotech Corporation, using bits of genetic code to cause an immune response.
- A nasal vaccine by Bharat BioTech
- The **Sputnik V** vaccine candidate developed by Dr Reddy's Lab and Gamaleya National Centre in Russia
- A second vaccine being developed by Serum Institute of India and American vaccine development company Novavax.

Available at: <https://www.mohfw.gov.in/#latest-update> (Accessed on 10th January, 2021)



MIGRAINE HEADACHE

WHAT IS MIGRAINE?



- A common and disabling neurological condition
- Attacks of headache and other symptoms because of an abnormally sensitive brain

HOW COMMON IS MIGRAINE?

1 billion worldwide



1 in 4 homes



1 in 5 women



1 in 16 men



1 in 11 children



IS MIGRAINE INHERITED?

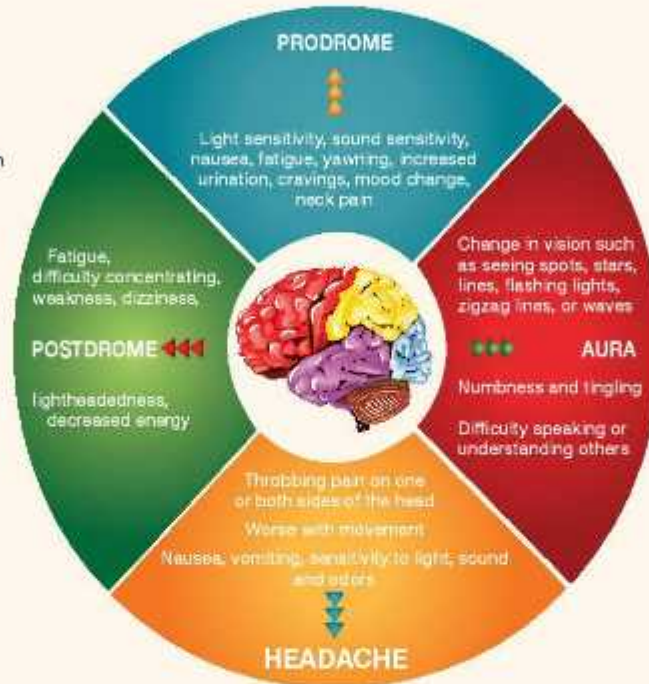
If 1 parent has migraine:
50% chance of a child having it too



If both parents have migraine:
75% chance of a child having it too



WHAT ARE MIGRAINE SYMPTOMS?



WHAT IS AURA?



- One-third of people with migraine
- Reversible attacks of neurological symptoms
- Usually last from a few minutes up to an hour

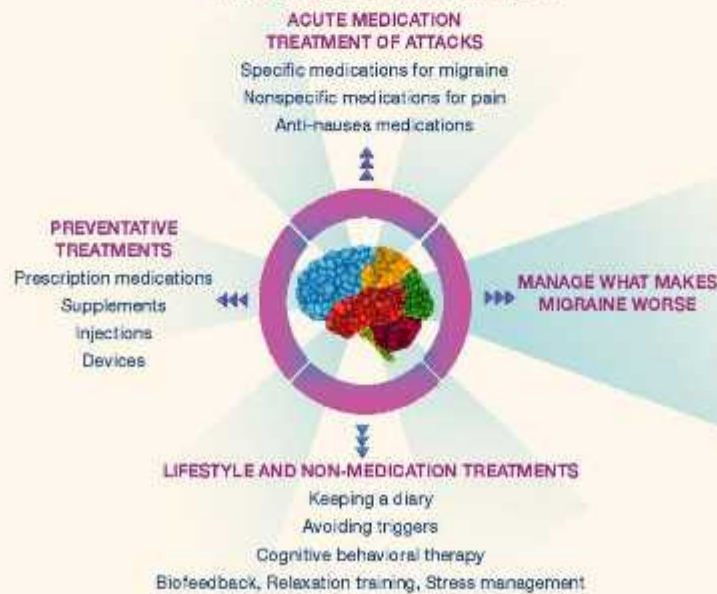
CAN MIGRAINE GET WORSE OVER TIME?



- 2-3% of people with episodic migraine every year develop chronic migraine
- Chronic migraine indicates headache happening on half of all days for 3 or more months
- Risk factors for chronic migraine

Stressful life events
Head injury
Excessive caffeine use
Overuse of opioids and barbiturates
Not having an optimized acute treatment plan
More headache days per month
Persistent frequent relapses with migraines
Snoring and sleep apnea
Other pain conditions -
Depression
Anxiety
Allodynia (skin and scalp sensitivity to touch)
Allergic rhinitis

HOW IS MIGRAINE TREATED?



Available at: <https://americanheadachesociety.org/resources/infographics/> (Accessed on 11th January 2021)

MINT

Mint or *mentha* belongs to the *Lamiaceae* family, which contains around 15 to 20 plant species, including peppermint and spearmint. It is a popular herb that people can use fresh or dried in many dishes and infusions.

HEALTH BENEFITS

Anti-oxidant

Possesses Anti-Allergic property

Aids in soothing GI problems such as Irritable bowel syndrome (IBS) and stomach upset.

Promotes oral health and prevents bad breath

Helps in relieving symptoms of cold and cough

MINT LEAVES

NUTRIENTS	CHEMICAL VALUE (per 100g)
Water	78.65g
Energy	70kcal
Protein	3.75g
Total fat	0.94g
Ash	1.76g
Carbohydrates	14.89g
Fibre	8g
Iron	5.8g
Calcium	243g
Vitamin C	31.8 mg
Vitamin A	4248 IU



FUN CORNER



SUPER JOKES

One company owner asks another:

"Tell me, Bill, how come your employees are always on time in the mornings?"

Bill replies:

"Easy. 30 employees and 20 parking spaces."



Q



DIMAG KI BATTI JALAO

1. All types of sugar provide around _____ calories per gram.
2. The _____ platform developed by the government will register beneficiaries, allocate vaccination sessions and also administration of their dose.
3. Which one is right? Colour of the clouds are blue or colour of the clouds is blue?



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