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LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY

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वर्ल्ड मलेरिया दिवस

World Malaria Day 2022: मच्छरों को दूर भगाने में बेहद असरदार हैं ये 3 तेल (Dainik Jagran: 20220425)

https://www.jagran.com/lifestyle/health-world-malaria-day-2022-these-3-oils-are-very-effective-to-keep-away-mosquitoes-22657326.html

नेचुरल ऑयल जो मच्छरों को रखते हैं दूर

World Malaria Day 2022 वर्ल्ड मलेरिया दिवस हर साल 25 अप्रैल को मनाया जाता है। तो आज के दिन हम आपको बताने वाले हैं कुछ ऐसे नेचुरल ऑयल्स के बारे में जिनके इस्तेमाल से आप मच्छरों को आसानी से दूर भगा सकते हैं।

नई दिल्ली, लाइफस्टाइल डेस्क, World Malaria Day 2022: मच्छरों के काटने से डेंगू, मलेरिया, चिकनगुनिया और गैस्ट्रोएन्टराइटिस जैसी कई खतरनाक बीमारियां आपको अपनी चपेट में ले सकती हैं। डेंगू से तो हर साल कई लोग अपनी जान भी गवां देते हैं। तो बहुत जरूरी है इनसे खुद को बचाना। मच्छर गंदे और दूषित पानी में तेजी से पनपते हैं इसलिए घर, बालकनी या गार्डन में कहीं भी पानी न इकट्ठा होने दें। समय-समय पर इनकी साफ-सफाई करते रहें। साथ ही साथ कुछ ऐसे तेल भी हैं जिनके इस्तेमाल से आप मच्छरों को दूर भगा सकते हैं। जानेंगे इनके बारे में..

1. दालचीनी का तेल

दालचीनी जहां खाने का स्वाद बढ़ाने का काम करती है वहीं ये मसाला मच्छरों को भी दूर रखने में बेहद असरदार है। दालचीनी के तेल को स्किन पर लगाने के अलावा आप कपड़ों पर भी इसे स्प्रे कर सकते हैं।

2. नीम का तेल

नीम के तेल का अलग-अलग तरीकों से इस्तेमाल कर सकते हैं मच्छरों से छुटकारा पाने के लिए।

पहला तरीका

नीम के तेल में कपूर के टुकड़े मिलाकर किसी स्प्रे बॉटल में भर लें। अब इसे तेजपत्ते पर स्प्रे करें फिर उस पत्ते को जला दें। घर में मौजूद मच्छर भागने लगेंगे।

दूसरा तरीका

घर के खिड़की-दरवाजों पर नीम का तेल लगाना है। इसके अलावा आप नीम के तेल का दिया भी जला सकते हैं ये भी प्रभावी होता है।

तीसरा तरीका

नीम और नारियल तेल की बराबर-बराबर मात्रा मिलाकर उसे शरीर के खुले हिस्से में लगा लें या फिर पूरे शरीर पर। नीम में एंटी-प्रोटोजॉल कंपांउड्स मौजूद होते हैं जिनसे एक अलग तरह की गंध निकलती रहती है जो मच्छरों को दूर भगाने का काम करती है।

3. लैवेंडर

लैवेंडर तेल और उसके सूखे फूल दोनों से ही मच्छर दूर भागते हैं। इसकी वजह है इसकी तेज गंध। तो अगर आपके घर में भी बहुत ज्यादा मच्छर हैं तो ये तेल आ सकता है बहुत काम। तेल को शरीर पर लगाने से स्किन भी सॉफ्ट रहती है। इसके अलावा लैवेंडर रूम फ्रेशनर का भी ऑप्शन है आपके पास। जिसे उस वक्त स्प्रे करें जब घर में सबसे ज्यादा मच्छर रहते हैं।

World Malaria Day 2022: एक नहीं 5 तरह का होता है मलेरिया बुखार! जानें इससे बचने के उपाय (Dainik Jagran: 20220425)

https://www.jagran.com/lifestyle/health-malaria-day-2022-did-you-know-there-are-5-different-types-of-malaria-22657470.html

जानें 5 तरह के अलग-अलग मलेरिया बुखार के बारे में

World Malaria Day 2022 मलेरिया बुखार को आम बुखार समझने की ग़लती लोग न करें इसलिए हर साल 25 अप्रैल को विश्व मलेरिया दिवस मनाया जाता है। ताकि लोगों को इस जानलेना बीमारी के बारे में पता चल सके।

नई दिल्ली, लाइफस्टाइल डेस्क। World Malaria Day 2022: हर साल 25 अप्रैल को दुनियाभर में विश्व मलेरिया दिवस मनाया जाता है, ताकि लोगों को मलेरिया बुखार के बारे में जागरुक किया जा सके। विश्व स्वास्थ्य संगठन की विश्व मलेरिया रिपोर्ट 2021 के अनुसार, भारत में अभी भी दुनिया में मलेरिया के सबसे अधिक मामले देखे जाते हैं, हालांकि पिछले कुछ वर्षों में देश में मामलों में गिरावट देखी गई है।

आप जानते होंगे कि मलेरिया कुछ मच्छरों द्वारा किया जाने वाला एक परजीवी संक्रमण है। लेकिन क्या आप जानते हैं कि मलेरिया एक नहीं बल्कि 5 तरह का होता है। तो आइए जानें अलग-अलग तरह के मलेरिया और इससे बचने के तरीके।

क्या है मलेरिया?

मलेरिया बुखार एक प्रकार का संक्रामक रोग है। यह मादा एनोफिलीज मच्छर के काटने से फैलता है, जिसमें प्लास्मोडियम वाइवैक्स नामक प्रोटोज़ोअन होता है।

मलेरिया बीमारी गर्मियों और बारिश के मौसम में ज़्यादा आम हो जाती है। मलेरिया के मच्छर ठहरे हुए और गंदे पानी में पैदा होते हैं, जबकि डेंगू का मच्छर ताज़े पानी में पैदा होता है। मलेरिया किसी को भी हो सकता है, और एक से ज़्यादा बार हो सकता है। ऐसी जगह जहां पानी का जमाव है, वहां मलेरिया होने की संभावना बढ़ जाती है।

मलेरिया से कैसे संक्रमित होते हैं?

मादा एनोफिलीज मच्छर के काटते ही प्लाजमोडियम नामक परजीवी व्यक्ति के शरीर में प्रवेश कर जाता है और रोगी के शरीर में पहुंचते ही फैलना शुरू कर देता है। यह परजीवी लीवर और रक्त कोशिकाओं को संक्रमित कर व्यक्ति को बीमार कर देता है। सही समय पर इलाज न मिलने पर यह बीमारी जानलेवा भी हो सकती है। मलेरिया को आम बुखार समझने की ग़लती नहीं करनी चाहिए। अगर सही समय पर इसका इलाज नहीं किया गया तो यह जानलेवा साबित हो सकता है।

मलेरिया के लक्षण

मलेरिया में मरीज़ को तेज़ बुखार और कंपकपी होती है। इस प्रकार के बुखार में एक पैटर्न देखने को मिलता है। बुखार आमतौर पर 24 से 48 घंटों के भीतर दिखना शुरू हो जाता है। इसका कारण यह है कि मलेरिया पैदा करने वाले परजीवी समय-समय पर रोगी के जिगर से रक्त में निकल जाते हैं, रक्त की कोशिकाओं को संक्रमित करते हैं, वहां से एक प्रकार का विष बनाते हैं। जिसकी वजह से कंपकपी के साथ बुखार आता है।

ऐसे होते हैं लक्षण:

- तेज़ बुखार

- ठंड लगना

- र दर्द

- शरीर दर्द

- पसीना आना

- मांसपेशियों में दर्द

- उल्टी

- बेचैनी

- कमज़ोरी

मलेरिया के प्रकार

मलेरिया मूल रूप से 5 प्रकार के होते हैं, जो विभिन्न परजीवियों के कारण होते हैं

Plasmodium falciparum (P. Falciparum)

यह परजीवी ज्यादातर दिन में काटता है और लगभग 48 घंटों के बाद लक्षण दिखने लगते हैं। इस रोग से पीड़ित व्यक्ति को तेज बुखार के साथ सिर दर्द, कमर दर्द, हाथ-पैर में दर्द, भूख न लगना जैसे लक्षण दिखते हैं। अगर कोई व्यक्ति पी. फाल्सीपेरम से संक्रमित है, तो वह बेहोश हो सकता है। रोगी को बहुत ठंड लग सकती है, सिरदर्द भी हो सकता है, और उल्टी भी हो सकती है। अगर इसका उपचार न किया तो यह घातक साबित हो सकता है।

मलेरिया अगर बिगड़ जाए, तो इसके कारण पीलिया या लीवर की समस्या, किडनी की समस्या, एनीमिया हो सकता है। प्लास्मोडियम फाल्सीपेरम मलेरिया सबसे आम तरह का मलेरिया है, और इसके रोगियों में दुनिया भर में मलेरिया से होने वाली मौतों की संख्या सबसे अधिक है।

Plasmodium ovale malaria (P. ovale)

प्लास्मोडियम ओवले मलेरिया, बिनाइन टरटियन मलेरिया का कारण बनता है और यह असामान्य है। बिना लक्षण दिखे यह व्यक्ति के जिगर में वर्षों तक रह सकता है।

Plasmodium malariae (P. malariae)

प्लास्मोडियम मलेरिया एक प्रकार का प्रोटोजोआ है जो एक अन्य प्रकार के बिनाइन मलेरिया के लिए ज़िम्मेदार है। इस प्रकार का मलेरिया प्लास्मोडियम फाल्सीपेरम या प्लास्मोडियम वाइवैक्स जितना खतरनाक नहीं है।

Quarton Malaria

इस रोग में क्वार्टन मलेरिया होता है, जिसमें रोगी को हर चौथे दिन बुखार आता है। इसके अलावा, रोगी के पेशाब से प्रोटीन निकलने लगता है। जिससे मरीज के शरीर में प्रोटीन की कमी हो जाती है, जिससे इंफ्लामेशन और सूजन हो जाती है।

Plasmodium knowlesi (P. knowlesi)

इस प्रकार का मलेरिया पूर्वी एशिया में पाया जाने वाला एक प्राइमेट मलेरिया परजीवी है। इसमें मरीज को ठंड लगने के साथ बुखार भी होता है। लक्षणों में बुखार, सिरदर्द, भूख न लगना और ठंड लगना शामिल है।

मलेरिया से कैसे बचें

मलेरिया से बचाव का सबसे अच्छा तरीका मच्छरों के काटने से खुद को बचाना है।

अपने परिवार और खुद को मच्छरों के काटने से बचाएं। संक्रमित मरीज को काटने वाला मच्छर अगर किसी स्वस्थ व्यक्ति को काट ले तो मलेरिया होने की संभावना बढ़ जाती है

मच्छरों के काटने से बचने के लिए मॉसकीटो नेट्स और रिपेलेंट का इस्तेमाल करें।

Disclaimer: लेख में उल्लिखित सलाह और सुझाव सिर्फ सामान्य सूचना के उद्देश्य के लिए हैं और इन्हें पेशेवर चिकित्सा सलाह के रूप में नहीं लिया जाना चाहिए। कोई भी सवाल या परेशानी हो तो हमेशा अपने डॉक्टर से सलाह लें।

World Malaria Day 2022: Leveraging newer technologies aided by a surveillance system revamp core to malaria elimination now, says WHO's Dr Soumya Swaminathan (The Indian Express: 20220425)

https://indianexpress.com/article/lifestyle/health/world-malaria-day-2022-soumya-swaminathan-interview-7884833/

In an interview with The Indian Express, WHO's chief scientist Dr Soumya Swaminathan discusses the key challenges to malaria elimination

WHO's chief scientist Dr Soumya Swaminathan spoke to the Indian Express Group's E Kumar Sharma.

The World Malaria Report 2021 of the World Health Organization (WHO) sees India as the only high burden country to have been able to sustain a reduction in the malaria disease burden. Yet, it also notes that India accounted for about 82 per cent of all malaria deaths in the South-East Asian region. The pandemic months have only added to the woes and now with new technologies and tools being discussed, what options India has and challenges it faces while on its goal to eliminate malaria by 2030, if not earlier.

Here are the excerpts:

Q. Dr Soumya, thank you so much for your time. As you know, the theme for World Malaria Day 2022 is "harness innovation to reduce the malaria disease burden and save lives," what is your view on the newer technologies being deployed to help in malaria eradication?

Swaminathan: It's important to recognise that, although some countries have been successful in stamping out malaria, we are still a very long way from malaria eradication, which refers to the elimination of malaria in all parts of the world. In 2020 alone, there were an estimated

241 million malaria cases worldwide and 6,27,000 deaths worldwide. Sub-Saharan Africa continues to carry the heaviest burden of the disease (95 per cent of all malaria cases and 96 per cent of all deaths). Thankfully, there are a number of exciting technologies in the R&D pipeline. These include, for example, new vector control innovations such as new types of insecticide-treated nets, spatial mosquito repellents, gene-drive approaches and sugar baits designed to attract and kill Anopheles mosquitoes.

Then there are the new antimalarial medicines. The WHO welcomes, for example, the recent approval by the Australian Therapeutic Goods Administration of dispersible tablets of single-dose tafenoquine for the prevention of P. vivax malaria among children. As a single dose, tafenoquine is expected to support patient adherence to treatment. The current standard of care requires a 7- or 14-day course of medication.

Also, the new malaria vaccines. We already have a safe and effective vaccine (RTS, S/ASOI) that is currently being deployed in three African countries. In addition, the WHO welcomes progress in the development of R21/Matrix-M and other malaria vaccine candidates in early clinical development; the successful completion of clinical trials for these vaccines will be important to assess their safety and efficacy profiles. The WHO also welcomes the news from BioNTech, manufacturer of the Pfizer-BioNTech Covid-19 vaccine, that it aims to develop a malaria vaccine using mRNA technology.

Also in Express Health |Does Covid-19 affect the brain? Answer is a resounding yes…focus on nutrition, physical activity and positive outlook

Q. Dr Soumya, what about leveraging the option of genetic modification in mosquitoes. Is this an option India should be opting for?

Swaminathan: For now, gene drive is being tested only in large-scale laboratory experiments. Field trials are still several years away. Whether or not the WHO will recommend genetically modified mosquitoes as an intervention for malaria vector control will depend on the outcome of these trials. Until that point, India should not consider this as a viable option but instead focus on deploying those interventions recommended in the WHO malaria guidelines.

Cutting Edge |After Covid, can genome sequencing help identify gene responsible for drug-resistant TB?

Q. Many experts have also been recommending reliance on Wolbachia bacteria. How significant is the scope for this and should this be an option India should seriously pursue?

Swaminathan: Introduction of Wolbachia, a naturally occurring obligate intracellular bacteria, into a mosquito population has so far only been assessed by the WHO as an intervention against Aedes mosquitoes. It is not an intervention that is currently available for the control of the anopheline vector of malaria.

Q. What would you say are the three key steps India should be taking as it pushes for greater malaria control and, ultimately, elimination?

Swaminathan: The National Centre for Vector Borne Diseases, Ministry of Health and Family Welfare, and WHO are currently conducting this week and next week a review of the malaria programme. The findings and recommendations will inform the development of the national malaria strategic plan for the period 2023-2027. I do not want to pre-empt what the experts would recommend, but from my perspective efforts at malaria elimination in India will be accelerated by strengthening human resources. The vacant key positions with managerial and technical functions at central, state and district levels, and those responsible for delivery of services at the peripheral level should be filled. Training in malaria elimination should be scaled-up and the necessary enabling environment should be put in place for staff to effectively perform their tasks.

B, revamping the surveillance system to make it a core intervention for malaria elimination. The country should harness its strength in telecommunications technology and human resources on the ground (multi-purpose workers and Accredited Social Health Activists, or ASHAs) to have an effective surveillance and response system to eliminate malaria. C, investing in research and development of new tools and approaches to deliver interventions to high risks populations in hard-to-reach areas. This will benefit not only India but also other malaria-endemic countries.

Q. What is your view on the challenges faced on account of migrant workers?

Swaminathan: Migrant workers, including those who migrate from malaria-endemic villages to urban areas, are among the high-risk groups and drivers of malaria transmission. This is one reason why urban malaria is still a problem in India. In some cases, migrant workers from areas without malaria contract the disease in places where they go for work, such as mining and agroforestry sites, where malaria transmission is still high. A good surveillance and response system and innovative ways to deliver interventions for migrant workers are needed.

Q. What about combating drug and insecticide-resistant malaria? What measures would you suggest on this?

Swaminathan: Resistance of malaria parasites to medicines and resistance of malaria vectors to insecticides are among the key challenges to malaria elimination, not only in India and in many countries around the world.

Some suggestions to combat these challenges will be: As for drug resistance, periodically review and update the malaria treatment policy based on evidence. The national malaria programme and research institutes in India, with support from the WHO, are continuously monitoring malaria drug resistance, and there is a mechanism in the country to periodically review the data and update the malaria treatment policy. This should be sustained.

Some of the challenges include inappropriate use of malaria medicines in the private formal and informal health sectors, poor adherence to treatment by patients and poor adherence of some medical staff to the treatment guidelines. It will help to strengthen the implementation

of regulations that would ensure the quality of malaria medicines and prohibit the sale of medicines that are not recommended for use in the country.

Research and development of new malaria medicines or test combinations of current malaria drugs should be intensified.

As for insecticide resistance, developing and implementing an insecticide resistance management plan based on evidence. To mitigate the impact of insecticide resistance, the country should regularly monitor the susceptibility of its key mosquito vectors to the insecticides that are in current use and those that are planned to be used in the near future. Depending on these data, interventions should be chosen that use effective insecticides. It is also recommended that the country tries to minimise selection pressure for resistance, for example by not using pyrethroid insecticides for indoor residual spraying (IRS) and deploying insecticide-treated nets in the same area, as these are also all treated with pyrethroids. Apart from these, invest in developing public health entomologists and invest in research to develop a new class of insecticides and other vector control tools.

Q. Dr Soumya, some have been arguing that the malaria problem in India is today really in certain pockets and tribal locations. What do you see as the barriers and the strategies that could be deployed to overcome these?

Swaminathan: India has made enormous progress in reducing its malaria burden. However, pockets of high transmission exist mainly among tribal communities in areas that are very hard to reach.

The government has trained and supported ASHAs among the tribal communities to deliver services. This should be further expanded and improved through regular supportive supervision and supply of rapid diagnostic tests and medicines. Innovative approaches of health education based on social science research should be carried out. The Tribal Health Department and other sectors, such as education and forestry departments, should be engaged. In the long term, health centres should be built closer to remote tribal communities, and (as far as possible) the staff should be from those communities to avoid socio-cultural barriers.

Pockets of high transmission are also present in some forest reserve areas, including those at international borders, where settlers are considered illegal and therefore no services are provided. I believe it is time to revisit government policies on this issue and—in the context of sustainable development, health equity and malaria elimination— health services or at least malaria interventions should be provided. The provision of services could be through NGOs or civil society if the programme cannot deliver these services.

Q. In the Indian context, since the focus is on eradication, there is also the component of cross-border movement. Do you think it is time to actively move on a cross-border health framework?

Swaminathan: Firstly, let me clarify that eradication means all countries around the world have eliminated malaria so there is no more source of human malaria. The current aim in

India and in all countries in WHO South-East Asia Region is to eliminate malaria by 2030, as per the Ministerial Declaration on Malaria Elimination in South East Asia Region in November 2018. By 2030, several countries mainly in Africa will still have malaria so the risk of re-establishment of malaria in India would be high.

Cross-border collaboration on malaria between India, Bhutan, Nepal, and Bangladesh exists and should be formalised at the highest level possible. And I believe that a broader framework that addresses common health problems and not just malaria should be put in place.

Q. The National Framework for Malaria Elimination in India (2016-2030) has been an important roadmap in the country's drive to end malaria. However, integrated programmes that target overall disease control can be highly effective in the long term. Would India benefit from implementing a triple elimination plan that brings malaria, lymphatic filariasis, and visceral leishmaniasis under its ambit? How so?

Swaminathan: The programmes to eliminate malaria, lymphatic filariasis, and visceral leishmaniasis are under the same office – the National Vector Borne Disease Control Programme. So, there is value in implementing a "triple elimination plan" in states and districts where these three diseases co-exist. While there are specific activities for each disease, some could be integrated such as annual review and planning meetings, training, supervision and monitoring. The surveillance platform could be integrated, too.

Q. Covid-19 related disruptions affected malaria control efforts around the world. Globally, the pandemic has undoubtedly brought about major changes and adaptations to health systems – enhanced surveillance and screening, data sharing, vaccine delivery and doorstep service delivery are just some of these initiatives. What can we learn from the global Covid response that can be applied to India's strategy for improved malaria control?

Swaminathan: Disruptions in malaria diagnosis and treatment occurred in India during the Covid-19 pandemic; a WHO pulse survey, for example, showed partial disruptions of between 5 per cent to 50 per cent in 2020, and there was over 30 per cent fewer malaria diagnostic tests in 2020 compared to the year before the pandemic. The data for 2021 is not yet available, but disruptions could be higher, especially during the period when the pandemic peaked and caused devastation in the country. However, India's malaria burden continued to decline between 2019 and 2020, even though the rate of reduction was slower compared to pre-pandemic years.

There are several lessons from the pandemic response that I believe would be applicable to India. These include: First, the health system, mainly surveillance, epidemic preparedness and response, supply chain management, and good coordination between central and states and between states and districts is essential. Second, a whole-of-society or multi-sectoral response should be adopted.

Third, a good communications strategy for each target audience, such as communities at risk and traditional leaders, health workers, private practitioners, private corporate sector, elected

officials, etc. Fourth, re-purposing health workers to deliver malaria interventions when needed, such as to control malaria and mass distribution of insecticide-treated mosquito nets.

Q. Research has indicated the fact that climate change will increase malaria transmission in endemic areas. Even in regions that have been malaria-free so far, an increase in temperature, rainfall, and humidity could cause a proliferation of malaria-carrying mosquitoes. What, in your opinion, is the impact of climate change on control and elimination strategies?

Swaminathan: The basic WHO position is that climate change is likely to increase rather than decrease the risk of malaria transmission. However, to date, there is no evidence that climate change has affected malaria control and elimination strategies. The 2020 report of the Strategy Advisory Group on malaria eradication has looked at this in detail and does provide useful information, especially with respect to malaria transmission and the vulnerability of populations to malaria.

World Malaria Day 2022: All you need to know about causes, symptoms, and treatment (The Indian Express: 20220524)

https://indianexpress.com/article/lifestyle/health/world-malaria-day-2022-all-you-need-to-know-about-causes-symptoms-and-treatment-7884945/

Malaria can be treated. If the right drugs are used, people who have malaria can be cured and all the malaria parasites can be cleared from their bodies

Each year, World Malaria Day is observed by the World Health Organisation to spread awareness about the illness. This year, the theme is 'Harness innovation to reduce the malaria disease burden and save lives'. "This year's World Malaria Day will draw attention to the critical role innovation plays in helping to achieve global elimination goals," reads WHO's official website.

What is Malaria?

"Malaria is an acute febrile illness caused by four kinds of malaria parasites — Plasmodium falciparum, P. vivax, P. ovale, and P. malariae. In a non-immune individual, symptoms usually appear 10–15 days after the infective mosquito bite," said Dr. Aravinda GM, consultant, Internal Medicine, Manipal Hospital, Jayanagar.

Symptoms

Dr GM pointed out that the first symptoms include fever, headache, and chills which may be mild, making it difficult to recognise as malaria. "If not treated within 24 hours, Plasmodium

falciparum malaria can progress to severe illness, and lead to death. Children with severe malaria frequently develop one or more of the following symptoms like severe anaemia, respiratory distress in relation to metabolic acidosis, or cerebral malaria. In adults, multi-organ failure is also frequent."

Some population groups are at considerably higher risk of contracting malaria, and developing severe diseases, than others. These include infants, children under 5 years of age, pregnant women, and patients with HIV/AIDS, as well as non-immune migrants, mobile populations, and travellers.

Treatment

Malaria can be treated. If the right drugs are used, people who have malaria can be cured and all the malaria parasites can be cleared from their bodies. However, said Dr GM, "the disease can continue if it is not treated or if it is treated with the wrong drug. Some drugs are not effective because the parasite is resistant to them. Some people with malaria may be treated with the right drug, but at the wrong dose or for too short a period of time. Proper nutritional supplements help in boosting immunity and fighting diseases."

COVID-19

Active COVID-19 cases in India rise to 16,522 (The Hindu: 20220425)

https://www.thehindu.com/news/national/active-covid-19-cases-in-india-rise-to-16522/article65352926.ece?homepage=true

A health worker administering COVID-19 vaccine to 12 to 14 age group students at a Government Girls' High School Puducherry. | Photo Credit: S.S. Kumar

India reported 30 fresh fatalities, the data updated at 8 am on April 25, 2022, stated.

With 2,541 new coronavirus infections being reported in a day, India's total tally of COVID-19 cases rose to 4,30,60,086, while the active cases increased to 16,522, according to the Union Health Ministry data updated on Monday, April 25, 2022.

The death toll climbed to 5,22,223 with 30 fresh fatalities, the data updated at 8 am stated.

The active cases comprise 0.04 per cent of the total infections, while the national COVID-19 recovery rate was recorded as 98.75 per cent, the ministry said. An increase of 649 cases has been recorded in the active COVID-19 caseload in a span of 24 hours.

COVID-19 has not gone, is changing forms and resurfacing, says PM Modi

The daily positivity rate was recorded as 0.84 per cent and the weekly positivity rate as 0.54 per cent, according to the Ministry.

The number of people who have recuperated from the disease surged to 4,25,21,341, while the case fatality rate was 1.21 per cent.

Vaccinations

The cumulative doses administered in the country so far under the nationwide COVID-19 vaccination drive has exceeded 187.71 crore.

India's COVID-19 tally had crossed the 20-lakh mark on August 7, 2020, 30 lakh on August 23, 40 lakh on September 5 and 50 lakh on September 16. It went past 60 lakh on September 28, 70 lakh on October 11, crossed 80 lakh on October 29, 90 lakh on November 20 and surpassed the one-crore mark on December 19.

The country crossed the grim milestone of two crore on May 4 and three crore on June 23 last year. The 30 new fatalities include 24 from Kerala, two each from Maharashtra and Uttar Pradesh and one each from Delhi and Mizoram.

A total of 5,22,223 deaths have been reported so far in the country including 1,47,834 from Maharashtra, 68,843 from Kerala, 40,057 from Karnataka, 38,025 from Tamil Nadu, 26,167 from Delhi, 23,505 from Uttar Pradesh and 21,201 from West Bengal.

The Ministry stressed that more than 70 per cent of the deaths occurred due to comorbidities.

"Our figures are being reconciled with the Indian Council of Medical Research," the ministry said on its website, adding that state-wise distribution of figures is subject to further verification and reconciliation.

Multiple sclerosis

Multiple sclerosis (MS): Drug targeting Epstein-Barr virus shows promise (Medical News Today: 20220425)

https://www.medicalnewstoday.com/articles/multiple-sclerosis-ms-drug-targeting-epstein-barr-virus-shows-promise#1

In a clinical trial, a drug targeting the common Epstein-Barr virus showed promise in treating multiple sclerosis (MS

Researchers are investigating the effects of a drug that targets the Epstein-Barr virus in people with multiple sclerosis (MS) in an ongoing phase 1 clinical trial.

The drug improves MS symptoms and may even reverse the condition.

The researchers are now recruiting for a Phase 2 clinical trial to further study the drug's effects.

Multiple sclerosis (MS) is a chronic condition that affects the central nervous system (CNS). It is characterized by the immune system attacking myelin sheaths — fatty layers that surround nerve fibers and enable them to communicate.

A study published in early 2022 found that contracting the Epstein-Barr virus (EBV), a herpes virus, significantly increases a person's risk of MS. Multiple studiesTrusted Source have also found EBV-infected immune B cells in patients with MS.

Researchers still don't know how EBV may increase MS risk. However, one studyTrusted Source suggests that EBV proteins may mimic human myelin proteins and induce an immune reaction against myelin by CNS antigens.

Therapeutics that target EBV-infected B cells and plasma cells may be able to improve MS symptoms.

Atara Biotherapeutics, Inc., an allogeneic T-cell immunotherapy company, recently began an ongoing Phase 1 clinical trial to examine an experimental T-cell immunotherapy drug called ATA118 that targets EBV-infected cells in people with MS.

Of the trials of 24 volunteers, 20 showed signs of improvement or a halt in progression after a year of treatment.

Among 18 patients who agreed to take the drug for up to 39 months, 9 achieved sustained disability improvement, and 7 showed signs of remyelination.

The trial is ongoing; however, it will be presented at a conference by Atara on October 13th, 2022.

Phase 1 trial

For the trial, the researchers treated 24 patients with MS with varying doses of ATA188 for a year. Improvements began within six months of treatment.

After 12 months, 20 reported either improvement in their condition or a halt in decline. None of the patients experienced serious side effects.

Of the original 24 trial participants, 18 continued ATA188 treatment for up to 39 months. Seven achieved sustained disability improvement (SDI) at 12 months and two in the extended treatment period.

Researchers found that those seven participants also showed signs of remyelination, a natural mechanism to repair damage to the protective covering around nerve fibers in your central nervous system, which includes the brain and spinal cord.

“When a patient reaches a certain level of advanced disability, it is rare for them to naturally revert, and any improvement that is sustained would not be expected from the natural history of the disease,” said Mark Freedman, MD, Professor of Neurology, University of Ottawa.

“With progressive MS, spontaneous remyelination without therapeutic intervention is unlikely, highlighting the impact that these MTR data provide suggesting remyelination may be driving the prolonged sustained [Expanded Disability Status Scale] EDSS improvement,” he added.

The researchers noted that higher doses led to larger clinical responses. Of the nine patients who achieved SDI, seven received one of the two highest ATA188 doses in the first 12 months or the extended trial period.

They further noted that eight patients who achieved SDI also participated in the extended trial and that seven of these reported SDI at all time points.

As of August 2021, the researchers reported no fatal adverse events, although one patient with secondary progressive MS who had initially achieved SDI experienced a non-treatment-related relapse at 18 months.

Underlying mechanisms

When asked how targeting EBV infections may treat MS, Barbara Giesser, MD, neurologist and MS specialist at Pacific Neuroscience Institute at Providence Saint John’s Health Center in Santa Monica, CA, told Medical News Today:

“A majority of persons with MS appear to have been exposed to EBV. There is a protein on the EBV that is the same as a protein in myelin. When the body’s immune system attacks the virus, it also ends up attacking the myelin. Clearing the virus would decrease the stimulus for the immune cells to attack the myelin.”

Alex Chapman, vice president of Corporate Communications and Public Affairs at Atara, told MNT that A188 might affect two separate pathways in the brain thought to damage myelin:

“1) Interrupt the cell-mediated autoimmune cascade driven by EBV-infected B cells and 2) Reduce the production of myelin-targeted antibodies made by EBV-infected plasma cells.”

“T cells are able to access the central nervous system (brain and spinal cord) more readily than large antibodies. We already have good clinical evidence of this with one of our other programs using a different type of EBV T cell for cancer,” Chapman explained.

The researchers say their findings demonstrate the potential to halt or reverse disability progression by targeting what may be the root cause of MS.

When asked about the study’s limitations, both Chapman and Dr. Giesser stated that its sample size was small, and thus, further research is needed.

Chapman added that to address this, Atara is actively recruiting for a randomized, Phase 2, double-blind, placebo-controlled trial to further evaluate the efficacy and safety of ATA188 in patients with progressive MS.

Alzheimer's/ dementia

Exercise may protect brain health by lowering cardiovascular risk factors (Medical News Today: 20220425)

https://www.medicalnewstoday.com/articles/exercise-may-protect-brain-health-by-lowering-cardiovascular-risk-factors#Study-strengths-and-limitations

How does exercise protect brain health? New research sheds light.

Existing studies show that exercise helps protect brain cells through mechanisms that researchers do not yet fully understand.

Researchers know that exercise increases Trusted Source brain glucose metabolism, which correlates with improved brain function.

Studies show that exercise affects insulin resistance and has a complex relationship with body mass index (BMI) levels.

A new study suggests that exercise plays a role in maintaining insulin and BMI levels, which may help stave off dementia by protecting gray matter volume in the brain.

A new study investigates the mechanisms involved in the relationship between exercise and brain health.

Previous research had shown that larger gray matter volume can help protect against dementia by improving brain function.

The new study shows that insulin resistance and BMI mediate the relationship between larger and smaller brain gray matter volumes (the part of the brain involved in processing information).

The research is published in the April 2022 online issue of Neurology, the medical journal of the American Academy of Neurology.

The corresponding author of the study was Dr. Geraldine Poisnel, of the Inserm Regional Research Center, in Caen, Normandy, France.

Studying glucose metabolism and brain volume

The study involved 134 people with an average age of 69 who had no memory problems. The participants filled out a physical activity survey covering the past 12 months. They also had brain scans to measure glucose metabolismTrusted Source and brain volume.

The metabolism of glucose in the brain providesTrusted Source fuel for the brain by generating adenosine 5′-triphosphate (ATPTrusted Source) — a key molecule for maintaining the health of neurons and other cells. ATP is also key for generating neurotransmitters. Reduced glucose metabolism in the brain can be seen in people with dementia.

Gray matter development peaks at age 2–3Trusted Source years. It begins to decrease afterward in some areas of the brain, but the density of the gray matter increases. From an evolutionary perspective, the higher processing ability of the human brain and its development are due to this increase in density.

In some studiesTrusted Source, larger total brain volume, estimated by magnetic resonance imaging (MRI), has a weak correlation with higher intelligence in men and a very weak correlation in women with the ability to do well in intelligence tests.

In contrast, brain tissue deterioration and loss of volume is a significant contributor to lower cognitive ability later in life.

In the new study, researchers included 134 people with an average age of 69 who had no memory problems. The participants filled out a physical activity survey covering the past 12

months. They also had brain scans to measure glucose metabolismTrusted Source and brain volume.

Body mass index and insulin levels affect brain health

In the new study, researchers gathered formation on cardiovascular risk factors including BMITrusted Source and insulin Trusted Sourcelevels, as well as cholesterol, blood pressure, and other factors.

The researchers examined the relationship between insulin and cardiovascular disease. The metabolic abnormalities that insulin causes raise the risk of cardiovascular complications, which in turn affect brain function.

Researchers found that insulin and BMI levels did not affect the metabolism of glucose in the brain.

Alzheimer's disease marker not affected

The research demonstrated that the amount of amyloid plaque Trusted Sourcein the brain that contributes to Alzheimer's Disease was not affected by exercise.

Medical News Today contacted Dr. Raeanne Moore, associate adjunct professor of psychiatry at UCSD in La Jolla, CA.

Dr. Moore, who was not involved in the study, was asked about the study results. She shared with MNT:

"This study adds to the growing body of research on the positive benefits of staying active on brain health, especially as we age."

"[T]here is an urgent need to identify markers of cognitive decline," added Dr. Moore. "Decreasing insulin levels and losing weight are modifiable factors that can be improved with a healthy diet and exercise."

She added, "It was not surprising that higher physical activity was not associated with how much amyloid plaque people had in their brains. There is growing evidence that vascular risk factors on cognitive function are mediated by the amount of tau pathology in the brain and not an amyloid burden."

Takeaway

MNT also spoke with Dr. Sheldon Zablow, assistant professor of medicine at University of California San Diego Medical School in La Jolla, CA. Dr. Zablow shared his comments about this study:

"Exercise has often been called food for the brain with many studies showing the benefit of exercise for improving brain health and reducing the risk of dementia."

“This current research study states that physical activity improves cognitive brain function by reducing BMI and improving insulin metabolism. Improvement in weight control can limit the rate of brain volume loss, a known risk factor for dementia.”

“This study will help physicians reinforce the importance of regular exercise in reducing BMI as a low-cost means of limiting cognitive decline.”

– Dr. Zablow

Dr. Moore’s final remarks were, “The literature clearly demonstrates that cardiovascular risk factors are associated with cognitive decline and risk for Alzheimer’s disease and related dementias.”

“Studies investigating subtle brain changes prior to the development of dementia are critical to optimizing brain health and staving off cognitive decline.”

Study strengths and limitations

“Strengths of this study include a sample of cognitively normal older adults and the use of multimodal imaging methods to explore the role of CVD risk factors in the association between physical activity and neuroimaging biomarkersTrusted Source,” said Dr. Moore.

“[T]his methodology can move the field forward by helping to identify important markers of risk for cognitive decline.”

“A limitation to the study was the use of a self-report of physical activity […] which the authors acknowledged as a limitation. Self-report of physical activity is prone to retrospective recall bias, and objective tools to measure physical activity, such as fitness trackers, are more accurate.”

“These findings that insulin and BMI fully mediated the relationship between physical activity and whole-brain gray matter volume — and specifically hippocampal gray matter volume — provide further evidence that targeting these modifiable CVD risk factors could improve brain health.”