



INDIAN COUNCIL OF MEDICAL RESEARCH

Department of Health Research – Ministry of Health & Family Welfare
Government of India

Media report (18 May to 31 MAY 2019)
(Health News)

(Syed Adil Shamim Andrabi)
Information Interface Officer

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Accelerate actions to slash tobacco use across South-East Asian Region: WHO

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Even short trips to polluted cities can make you sick: Study

May 31, 2019/ The Tribune

World No Tobacco Day: 34.6 percent adults in India are smokers

May 31, 2019/ India Today

Novel microscope can non-invasively diagnose, treat diseases: Study

May 18, 2019/The Indian Express

Scientists have developed a specialised microscope that has the potential to diagnose diseases like skin cancer as well as perform precise surgery without making any incisions in the skin. According to the study published in the journal Science Advances, the microscope allows medical professionals to pinpoint the exact location of an abnormality, diagnose it and treat it instantly. “Our technology allows us to scan tissue quickly, and when we see a suspicious or abnormal cell structure, we can perform ultra-precise surgery and selectively treat the unwanted or diseased structure within the tissue – without cutting into the skin,” said Yimei Huang from the University of British Columbia in Canada. It could be used to treat any structure of the body that can be reached by light and requires extremely precise treatment, including nerves or blood vessels in the skin, eye, brain or other vital structures, researchers said. “We can alter the pathway of blood vessels without impacting any of the surrounding vessels or tissues,” said Lui. The researchers also said that their aim is to make multiphoton microscope technology more versatile while also increasing its precision. “We wanted to be able to identify what was happening under the skin from many different angles and to have the capability of imaging different body sites,” said Haishan Zeng from the University of British Columbia. Developments of a miniature version of the telescope that could be used to perform microscopic examinations and treatment during endoscopy are also underway, researchers said. “We are not only the first to achieve fast video-rate imaging that enables clinical applications, but also the first to develop this technology for therapeutic uses,” said Zeng

Tweaked pharmacy referral model increases TB case-finding

May 18, 2019/The Hindu

By slightly changing the way private pharmacies help people with symptomatic TB to get diagnosed early and start treatment, McGill University researchers have been able to achieve 62 times higher referral and 25 times increase in TB diagnosis. Of the 1,674 persons with TB symptoms who were referred by pharmacies, 255 were diagnosed with TB. The pilot study, which was riding piggyback on an existing TB intervention public-private programme (Universal Access to TB Care or UATBC) in Patna, involved 105 pharmacies and was carried out between December 2015 and June 2017. The UATBC programme was operated through World Health Partners. One of the shortcomings of the UATBC programme, which was meant to improve referral, testing and treatment for TB, was that pharmacies were required to refer patients to a doctor or a direct observation of treatment (DOT) centre. Testing for TB was only after completing doctor consultation. This meant that patients had to pay doctor consultation fee before being tested for TB, which led to fewer people

consulting a doctor. “Microbiological testing for TB bacteria is a confirmatory test. Patients who went through the pharmacy referral pathway were much more likely to have TB microbiologically confirmed,” she says. “The reasonable guess we can make for the higher microbiologically confirmed cases is that sputum is the only test left for doctors to ask for especially when the X-ray is suggestive of TB.” Pharmacies received Rs.100 as incentive if a referred person completes chest X-ray and another Rs.200 if the referred person is diagnosed with TB. “In our study, the approximate cost incurred to detect one TB case is just \$100 which would be considered cost-effective per TB case detected in India,” says Daftary. In India, pharmacies are the first point of medical contact for about 40% of people with TB symptoms and 25% of patients already diagnosed with TB continue to seek advice from pharmacies. Hence targeting pharmacies becomes particularly important to identify new cases and cut the delay in seeking medical attention.

Nut consumption might increase blood sugar levels in diabetics, finds study

May 19, 2019/The Indian Express

While nuts are often considered the healthiest snack to munch on and are packed with a number of health benefits, a recent study from Iran has noted that nut consumption might increase blood sugar levels in diabetics. However, nuts were found to lower the risk of obesity. In terms of dietary composition, nuts are high in monounsaturated fatty acids (MUFA) and polyunsaturated fatty acids (PUFA), and are good sources of vegetable protein. “Nuts incorporation into people’s usual diet may have beneficial effects for individuals with lower risk, such as non-diabetic subjects,” the authors stated in the journal *Nutrition, Metabolism and Cardiovascular Diseases*. The study, titled ‘Long term association of nut consumption and cardiometabolic risk factors’, involved analysis of 1,387 healthy participants within the framework of the prospective cohort of Isfahan Cohort Study for a period of 12 years. A validated food frequency questionnaire was completed and anthropometric measurements (assessing size, shape and composition of the human body), blood pressure, and fasting serum lipids and blood sugar were evaluated in three phases. The authors of the study showed that nut consumption was associated with a 29 per cent decreased risk of incident diabetes mellitus. In women, a 45 per cent risk reduction was seen in those with BMI of less than 25 kg/m², who consumed nuts five times per week. Residual confounding by body weight was considered as a major concern by the authors. In a similar study in the male population, ‘Nut Consumption and Risk of Type 2 Diabetes in the Physicians’ Health Study’, nut consumption was not associated with incident diabetes mellitus in apparently healthy US male physicians.

Global groups seek revision of WHO guidelines on biotherapeutic medicines

May 19, 2019/The Hindu

Over 60 civil society organisations from across the world have written to the Director General of World Health Organisation (WHO) demanding revision of the global health body's 'Guidelines for Evaluation of Similar Biotherapeutic Product (SBPs),' which were adopted in 2009. Biotherapeutic medicines, also known as biologics, are produced through biological processes and differ from the older generation small-molecule medicines that are derived through chemical synthesis. "Unfortunately, both accessibility and affordability of this new class of medicines in developing countries is abysmally poor, owing largely to their high prices," noted

the group. Civil Society groups claim that even though a Resolution of the World Health Assembly in 2014 mandates the Director General to convene the WHO expert committee on biological standardization to update the 2009 guidelines, “till date, the secretariat has neither updated the SBP guidelines nor has the WHO given any scientific reasons for the decision,” the group added. The groups including the Cancer Patients Aid Association (India), Section 27 (South Africa), Third World Network (Malaysia), and Treatment Action Group (USA) have demanded that WHO, in its capacity as the directing and coordinating authority on international health, promptly make public the scientific reasons for insisting on comparative clinical trials for the approval of SBP and urgently take measures to update the SBP Guidelines.



Environmental toxins may impair fertility of future generations

May 20, 2019/The Tribune

Exposure to environmental pollutants can cause alterations in brain development that affect sexual development and fertility for several generations, a study has found. Researchers from the University of Liege in Belgium monitored the sexual development of three generations of rats. Pregnant rats were exposed to a mixture of common endocrine-disrupting chemicals (EDCs), at doses equivalent to those commonly experienced by people. Their offspring showed impairments in sexual development and maternal behaviour that were passed on through several generations. The female rats born in the first and second generation showed impairments in their care for their own pups. However, the female rats in the second and third generation exhibited a delayed onset of puberty and altered reproductive cycle and ovarian follicle development, indicating that their fertility was affected, even though they were never themselves exposed to the EDCs. The findings suggest that current levels of EDCs in our environment may already be causing long-lasting harm and that people and agencies should take measures to minimise exposure. Endocrine-disrupting chemicals can interfere with the normal function of our hormones and have previously been associated with infertility and altered sexual development in animals and people, researchers said. We are exposed to hundreds of these pollutants in our daily lives, as they are used in the manufacture of plastics, pesticides and medicines. However, the extent of damage being done to our health and the consequences to future generations remains unclear. Rodent studies have suggested that exposure to EDCs can affect brain development through several generations but the generational effects on sexual development and reproduction have not previously been investigated. “These findings raise questions about the legacy we are leaving future generations,” Rodriguez said. PTI

Placental stem cells can regenerate heart after attack: Study

May 21, 2019/The Tribune

Stem cells derived from the placenta can regenerate healthy heart cells after an attack, according to study conducted in animal models. The findings, published in the journal Proceedings of the National Academy of Sciences (PNAS), may represent a novel treatment for regenerating the heart and other organs. “Cdx2 cells have historically been thought to only generate the placenta in early embryonic development, but never before were shown to have the ability to regenerate other organs, which is why this is so exciting,” said Hina Chaudhry, from the Icahn School of Medicine at Mount Sinai in the US. “These findings may also pave the

way to regenerative therapy of other organs besides the heart," Chaudhry said. "They almost seem like a super-charged population of stem cells, in that they can target the site of an injury and travel directly to the injury through the circulatory system and are able to avoid rejection by the host immune system," she said. The immune system did not reject these cells when administered from the placenta to another animal. "These properties are critical to the development of a human stem cell treatment strategy, which we have embarked on, as this could be a promising therapy in humans.

Stem cell therapy for spinal cord injury patients unethical, say experts

May 21, 2019/The Times of India

The Spinal Cord Society of India has warned doctors against offering stem cell therapy to spinal cord injury (SCI) patients. In a statement published in the European Spine Journal, the expert body said that though there exists sufficient pre-clinical evidence in support of the safety and potency of cell-based interventions, the same is not able to be translated robustly at clinical level. Nevertheless, he added, many centres have sprung up in big cities like Delhi and Mumbai that are using stem cell therapy to treat SCI. "Short of alternatives, many patients spend lakhs on the therapy. The failure to get any significant improvement makes them depressed and uninterested in conventional treatment even," the ISIC director said. He is the primary contributor to the position statement published in the European journal. Other authors include Geeta Jotwani from the Indian Council of Medical Research, Gourie Devi from Institute of Human Behaviour and Allied Sciences, S L Yadav from AIIMS and Susan Charlifue from Craig hospital in USA. The experts have opined that to stop the malpractice of marketing such 'unproven' therapies to a vulnerable population, it is crucial that all countries unite to form common, well-defined regulations or legislation on their use in SCI cases. Stem cell-based transplantation has been accepted as a standard therapy only in case of leukemia, burns and corneal regeneration. Other than these indications, stem cell interventions are still under trial, say experts. Stem cell therapy emerged as a big thing in India after one private clinic based in south Delhi claimed to have successfully treated former Chattisgarh chief minister Ajit Jogi, who was paralysed completely in a road accident in 2004. Many centres provide stem cell therapy in the name of research or treatment and charge between Rs 2 lakh and Rs 4 lakh for a single shot of stem cell.

Childhood adversity linked to teen violence, depression: Study

May 22, 2019/The Tribune

Exposure to adverse events as children—including physical and emotional neglect, violence, and sexual abuse—is strongly associated with adolescent depression and violence perpetrated by young people in poor urban areas around the world, including India, a study has found. Based in multiple countries across five continents, the study, published in the Journal of Adolescent Health, found that boys are suffering even more than girls. "This is the first global study to investigate how a cluster of traumatic childhood experiences known as ACEs, or adverse childhood experiences, work together to cause specific health issues in early adolescence with terrible, life-long consequences," said Robert Blum, from the Johns Hopkins Bloomberg School of Public Health in the US. "While we found young girls often suffer significantly, contrary to common belief, boys reported even greater exposure to violence and neglect, which makes them more likely to be

violent in return," Blum said. The effect of the adversity was more pronounced for boys than girls, with boys 11 times more likely to be engaged in violence, and girls four times more likely to be violent. The study also found that, in general, the cumulative effect of their traumas tended to produce higher levels of depressive symptoms among girls than boys, while boys tended to show more external aggression than girls. The study is part of the Global Early Adolescent Study, a major collaboration of the World Health Organization (WHO) and the Johns Hopkins Bloomberg School of Public Health to understand more about the development of gender stereotypes in early adolescence and their impact on adolescent health around the world. It supports a key conclusion from a major new report to be released next week at Women Deliver in Vancouver, Canada based on a global coalition of adolescent health experts: that the world will never achieve gender equality "by focusing on girls and women alone and excluding boys and men." — PTI



Overweight and obese kids likely to have similar heart disease conditions

May 22, 2019/Hindustan Times

Overweight and obese adolescents have similar increased risks of developing heart disorders, say researchers. "Until recently, overweight in adolescence wasn't considered as important a risk as obesity for the development of cardiovascular disease. We found the risks to be similar in both cases," said study lead author Vitor Engracia Valenti, Professor at Sao Paulo State University in Brazil. The study involved a small group of adolescents, aged between 10 and 17. The participants performed a moderate exercise protocol, which involved walking on a treadmill. Heart rate variability was measured before and after the exercise to assess the speed of autonomic cardiac function recovery. Prolonged autonomic nervous system imbalances after physical exertion have been shown to increase the risk of an acute event and of future cardiovascular disease, said study. Previous studies have shown the longer the autonomic nervous system takes to stabilise after a period of exertion, the greater the risk of cardiovascular or metabolic disease, according to Professor Valenti. The researchers found no significant difference in heart rate variability between overweight and obese adolescents or between girls and boys. "These findings suggest overweight adolescents have the same predisposition or vulnerability as that of obese adolescents to cardiovascular diseases such as hypertension and heart failure, as well as to metabolic disorders like diabetes, dyslipidemia, and high levels of triglycerides and LDL cholesterol," Valenti said. The study was published in the journal *Cardiology in the Young*.

Air pollution may up childhood anxiety, depression, finds study

May 23, 2019/The Indian Express

Being exposed to traffic-related air pollution can alter brain chemicals in children, increasing the risk of mental disorders such as anxiety and depression, a study has found. Exposure to air pollution is a well-established global health problem associated with complications for people with asthma and respiratory disease, as well as heart conditions and an increased risk of stroke. According to the World Health Organisation, pollution is responsible for millions of deaths annually. Researchers from the University of Cincinnati and Cincinnati Children's Hospital Medical Center in the US studied the correlation between exposure to traffic-related air pollution (TRAP) and childhood anxiety, by looking at the altered

neurochemistry in pre-adolescents. “This is the first study to use neuroimaging to evaluate TRAP exposure, metabolite dysregulation in the brain and generalised anxiety symptoms among otherwise healthy children,” said Brunst, lead author on the study published by the journal Environmental Research. The researchers evaluated imaging of 145 children at an average age of 12 years, looking specifically at the levels of myo-inositol found in the brain through a specialised MRI technique, magnetic resonance spectroscopy. Myo-inositol is a naturally-occurring metabolite mainly found in specialised brain cells known as glial cells, that assists with maintaining cell volume and fluid balance in the brain, and serves as a regulator for hormones and insulin in the body. Increases in myo-inositol levels correlate with an increased population of glial cells, which often occurs in states of inflammation. They found that, among those exposed to higher levels of recent TRAP, there were significant increases of myo-inositol in the brain, compared to those with lower TRAP exposure. They also observed increases in myo-inositol to be associated with more generalised anxiety symptoms. “In the higher, recent exposure group, we saw a 12 per cent increase in anxiety symptoms,” said Brunst. However, that the observed increase in reported generalised anxiety symptoms in this cohort of typically developing children was relatively small and are not likely to result in a clinical diagnosis of an anxiety disorder. “Increased exposure to air pollution can trigger the brain’s inflammatory response, as evident by the increases we saw in myo-inositol,

Childhood adversity linked to teen violence, depression: Study

May 23, 2019/The Indian Express

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Depression may spread through social networks: Study

May 24, 2019/The Tribune



Depression and other mental health problems can spread through social networks, up to "three degrees of separation" —or a friend of a friend of a friend, scientists warn. In a hyperconnected world, traditional social networks —face-to-face contacts of daily life—are unravelling with the loss of social supports, said researchers at the Flinders University in Australia. This is associated with increasing 'deaths of despair' related to alcohol, opiate overdose and suicide becoming more prevalent than ever, according to an article published in The Lancet journal. "Despair and distress can spread through social networks," said Professor Tarun Bastiampillai, from the Flinders University College of Medicine and Public Health. "The major implication is that instead of only resorting to medication, or individual psychological treatment, clinicians should also look to immediate social networks and wider social context including the influences of friends and family and wellbeing at work," Bastiampillai said. The emotional experiences of this clustered social network of up to 150 people—the traditional size of a village in the past—means 'friends of friends of friends' can have a negative or positive effect on us, he said. Clinicians may need to look beyond an individual's psychology and look at the individual's wider social network and the negative or positive impacts it has, according to researchers. Doctors should consider 'social prescribing'—where patients who present with depression are helped to engage with positive activities within their networks, they said. — **PTI**

Virtual reality can spot early symptoms of Alzheimer's: Study

May 24, 2019/The Indian Express

Virtual reality (VR) can identify early symptoms of Alzheimer's disease more accurately than 'gold standard' cognitive tests currently in use, a study claims. Researchers at the University of Cambridge in the UK noted that brain contains a mental 'satnav' of where we are, where we have been, and how to find our way around. A key component of this internal satnav is a region of the brain known as the entorhinal cortex. This is one of the first regions to be damaged in Alzheimer's disease, which may explain why 'getting lost' is one of the first symptoms of the disease. The VR navigation task was better at differentiating between these low and high risk MCI patients than a battery of currently-used tests considered to be gold standard for the diagnosis of early Alzheimer's. "These results suggest a VR test of navigation may be better at identifying early Alzheimer's disease than tests we use at present in clinic and in research studies," said Chan. VR could also help clinical trials of future drugs aimed at slowing down, or even halting, progression of Alzheimer's disease, researchers said. Currently, the first stage of drug trials involves testing in animals, typically mouse models of the disease. "The brain cells underpinning navigation are similar in rodents and humans, so testing navigation may allow us to overcome this roadblock in Alzheimer's drug trials and help translate basic science discoveries into clinical use," said Chan. "We've wanted to do this for years, but it's only now that VR technology has evolved to the point that we can readily undertake this research in patients," he said. Chan believes technology could play a crucial role in diagnosing and monitoring Alzheimer's disease. He is working with Professor Cecilia Mascolo at Cambridge to develop apps for detecting the disease and monitoring its progression. These apps would run on smartphones and smartwatches, researchers said.

Flower pesticides linked to high blood pressure in kids, finds study

May 25, 2019/The Indian Express



Exposure to flower pesticide may increase blood pressure in children and put them at the risk of hypertension, a study has found. Researchers at University of California San Diego in the US found a link between higher blood pressure and pesticide exposures in children – especially heightened pesticide spraying period around the Mother’s Day flower harvest, a holiday with one of the highest sales of flowers. The study, published in the journal *Environmental Research*, involved boys and girls living near flower crops in Ecuador. According to the researchers, Ecuador is among the largest commercial flower growers in the world, with significant rose exports to North America, Europe and Asia. Research regarding the effects of pesticides on the cardiovascular system is limited, but Suarez said there is some evidence that insecticides, such as organophosphates, can increase blood pressure. Organophosphates and several other classes of insecticides and fungicides are commonly used to treat flowers for pests before export. In a previous study, researchers had reported that children examined sooner after the harvest displayed lower performances in tasks of attention, self-control, visuospatial processing and sensorimotor than children examined later. “These new findings build upon a growing number of studies describing that pesticide spray seasons may be affecting the development of children living near agricultural spray sites,” said Suarez. “They highlight the importance of reducing the exposures to pesticides of children and families living near agriculture,” he added.

Researchers find hormonal link between diet and obesity

May 25, 2019/Hindustan Times

In a new study researchers have found that low levels of a circulating hormone called adropin predict increased weight gain and metabolic dysregulation during consumption of a high-sugar diet in a nonhuman primate model. According to the study published in the ‘*Journal of Biological Chemistry*,’ these findings will help set the stage to develop new therapies for managing metabolic diseases. Obesity is a growing public health crisis, bringing with it many serious risk factors, including cardiovascular disease and type 2 diabetes. As the number of people who are either overweight or obese now outnumbers those with a healthy body weight by a ratio of two to one, researchers face an urgent need to better understand how the body burns fuel. Several years ago, Andrew Butler, professor of pharmacology and physiology discovered the peptide hormone adropin. Research by Butler’s lab suggested that adropin regulates whether the body burns glucose or fat. They also found that young men with high adropin levels had lower body mass index (BMI) levels. Moreover, some studies indicated low adropin is associated with biomarkers of insulin resistance. Fasting hyperglycemia was also limited to animals with low circulating adropin, indicating glucose intolerance. “Monkeys with low adropin may therefore not be oxidizing glucose as well, explaining their higher fat content as the glucose is converted to lipids instead of being used as a metabolic fuel,” Butler said. “Last year we reported that adropin appeared to be an output of the biological clock using mouse models and cultured human cells. What we show in this paper is that expression of the ENHO gene is higher in daytime and lower at night in most primate tissues,” Butler said. This is consistent with the idea that adropin expression is controlled via “clock-related” mechanisms. The current finding suggests that adropin may link the biological clock to rhythms in the way the body uses sugar and fats as metabolic fuel.

Scientists have developed a new test to measure common stress hormones



May 26, 2019/The Indian Express

Scientists have developed a new test that can easily measure common stress hormones using sweat, blood, urine or saliva. Stress is often called “the silent killer” because of its stealthy and mysterious effects on everything from heart disease to mental health. Researchers from the University of Cincinnati in the US hope to turn the system into a simple device that patients can use at home to monitor their health. “I wanted something that’s simple and easy to interpret. This may not give you all the information, but it tells you whether you need a professional who can take over,” said Andrew Steckl, a professor at University of Cincinnati. Scientists developed a device that uses ultraviolet light to measure stress hormones in a drop of blood, sweat, urine or saliva. These stress biomarkers are found in all of these fluids, albeit in different quantities, Steckl said. “If you’re able to do the test at home because you’re not feeling well and want to know where you stand, this will tell whether your condition has changed a little or a lot,” said Steckl. “Stress harms us in so many ways. And it sneaks up on you. You don’t know how devastating a short or long duration of stress can be,” said Prajokta Ray, from University of Cincinnati. “So many physical ailments such as diabetes, high blood pressure and neurological or psychological disorders are attributed to stress the patient has gone through. That’s what interested me,” said Ray. Taking exams always gave her stress. Understanding how stress affects you individually could be extremely valuable, she said. “Stress has been a hot topic over the past couple years. Researchers have tried very hard to develop a test that is cheap and easy and effective and detect these hormones in low concentrations,” Ray said. “This test has the potential to make a strong commercial device. It would be great to see the research go in that direction,” she added.

Decreasing use of diuretic can cure heart failure patients

May 27, 2019/ Hindustan Times

According to a recent study it has been found that patients with a stable heart can easily be cured if they decrease the consumption of diuretics, a relief drug for patients with heart failure. The study was discussed in a meeting, ‘Heart Failure 2019’. Dr Luis E. Rohde, principal investigator of the research said, “Heart failure patients have many pills to take for their heart failure and for comorbidities such as diabetes and hypertension. Withdrawing one drug when it is no longer necessary should make it easier to take the ones that are needed.” “Patients don’t like using diuretics because they feel they have to stay at home to use the bathroom and they get cramps,” he added. “Patients would welcome being able to stop this medication.” Diuretics are commonly prescribed for symptom relief in patients with heart failure. The drugs get rid of the excess fluids (congestion) which causes shortness of breath, swollen legs, coughing, and weight gain. Once the symptoms have resolved, patients are maintained on a low dose due to concerns that symptoms may return. Observational research has shown that long-term diuretic use is associated with a worse prognosis. There was no difference between the groups in the self-perception of dyspnoea during the 90-day follow-up period. Also, 72 patients (75.3% in the withdrawal group and 78 patients (83.9%) in the maintenance group were free of furosemide reuse during follow-up. Senior author of the research, Dr Andreia Biolo, who presented the results said, “The results show that patients with stable heart failure who stop diuretics do not have more

dyspnoea than those who continue taking the drug. Withdrawal also does not lead to increased reuse of diuretics - around 20% of patients in both groups needed a top-up, presumably for symptom relief.” Dr Rohde said that the findings indicate that diuretics can be safely discontinued in heart failure patients meeting the trial’s eligibility criteria



WHO guidelines to reduce risk of cognitive decline, dementia

May 27, 2019/The Hindu

A range of lifestyle modifications may help reduce the risk of cognitive decline and dementia. A set of guidelines released by the World Health Organization (WHO) last week has put the focus on regular exercise, a healthy diet, and controlling obesity, diabetes and hypertension. Dementia can be defined as a group of symptoms that involves loss of memory and other thinking skills. The WHO has termed it as one of the greatest global challenges for health and social care in the 21st century. The WHO paper said, “The existence of potentially modifiable risk factors means prevention of dementia is possible through a public health approach, including the implementation of interventions that delay or slow cognitive decline or dementia.” The report said dementia is a major cause of disability and dependency among older people worldwide, and it has a significant impact not only on individuals but also on carers, families, communities, and societies. The guidelines are aimed at the healthcare providers who can advise people and have been listed under various categories such as low to moderate, strong, and low to high, based on the quality of evidence available and the strength of recommendations. Medical experts said these are some of the most basic preventative steps one can take for overall well-being. “The WHO has done the right thing by stressing upon these points,” said neurologist Dr. Nirmal Surya, adding it is essential for people to know the triggers for the cognitive decline. According to Dr. Surya, vascular dementia has emerged as a greater concern over the years. “It is a silent circulatory disturbance triggered by underlying causes such as diabetes and hypertension obesity.”

CMFRI develops dietary supplement against hypertension

May 28, 2019/The Hindu

The Central Marine Fisheries Research Institute (CMFRI) has come up with a nutraceutical product from the sea to combat hypertension. The product, Cadalmin™ Antihypertensive extract (Cadalmin™ AHe), was developed from seaweeds commonly available in Indian coastal waters and are known for their extraordinary medicinal properties, said a release here on Tuesday. “Bioactive pharmacophore leads from seaweeds were used to develop this product, which can be administered orally to regulate hypertension, which is one of the risk factors for stroke, heart attack, heart failure, and arterial aneurysm, and is a leading cause of chronic kidney failure. This is sixth in a series of nutraceutical products developed by the CMFRI. The institute has already developed and commercialised natural products for diseases such as diabetes, arthritis, cholesterol, and hypothyroid,” the release said. Trilochan Mohapatra, Secretary, Department of Agriculture Research and Education and Director General of Indian Council of Agricultural Research (ICAR), released the product at a function held at the CMFRI. “The extract contains 100% natural marine bioactive ingredients from selected seaweeds by a patented technology, and would be made available in 400 mg capsules. This nutraceutical does not have any side effects as established by detailed preclinical trials,” said Kajal Chakraborty, senior scientist at the CMFRI, who developed the product. A.

Gopalakrishnan, Director, ICAR-CMFRI, said entrepreneurs and start-ups are welcome to upscale and market this product by expression of interest (EOI) with the CMFRI.



Sleep apnea can have deadly consequences

May 28, 2019/The Indian Express

Although the woman in her 50s had been effectively treated for depression, she remained plagued by symptoms that often accompany it: fatigue, sleepiness and lethargy, even though she thought she was getting enough sleep. With depression no longer causing her persistent symptoms, her psychiatrist advised her to consult a sleep specialist. Sure enough, a night in the sleep lab at the University of Pennsylvania's Perelman School of Medicine revealed that while the woman was supposedly asleep, she experienced micro-awakenings about 18 times an hour, resulting in sleep that restored neither body nor brain. All night long, she would stop breathing for more than 10 seconds at a time, followed by a mini-arousal and a snore as she gasped for breath to raise the depleted oxygen level in her blood. Diagnosis: Obstructive sleep apnea, an increasingly common yet often missed or untreated condition that can result in poor quality of life, a risk of developing heart disease, stroke, diabetes and even cancer, and perhaps most important of all, a threefold increased risk of often-fatal motor vehicle accidents. Unfortunately, many who could benefit from CPAP fail to use it consistently, if at all. Many find the device cumbersome. Yet, about one-third of consistent users say it has completely transformed their lives and are now unwilling to go anywhere without it because they feel so much better with it, Veasey said. One of her patients even bought a generator so he could use it on his vacation in the Amazon. Rosen's patient also got a CPAP machine, which improved not only his own life but also his wife's, who was now able to get a full night's sleep uninterrupted by raucous snores. Another treatment option is a hypoglossal nerve stimulator that is surgically implanted to move the tongue forward and keep the airway open during sleep. Although it doesn't fully reverse the apnea, Veasey said it improves the condition enough for patients to feel a lot better. However, insurance coverage can be a problem for some people. Other options include a splint placed in the mouth to push the lower jaw forward, and the use of obstacles, like tennis balls inserted into the backs of pajamas, to discourage patients from sleeping on their backs.

Music from Indian snake charmer's flute may boost preemies' brain development

May 29, 2019/The Tribune

Scientists have composed new music on the Indian snake charmer's flute that can help boost brain development of premature infants in intensive care. While advances in neonatal medicine now extremely premature babies a good chance of survival, these children remain at high risk of developing neuropsychological disorders. To help the brains of these fragile newborns develop as well as possible despite the stressful environment of intensive care, researchers at the University of Geneva (UNIGE) and the University Hospitals of Geneva (HUG) in Switzerland created music written especially for them. The research, published in the Proceedings of the National Academy of Sciences (PNAS) in the US, shows that the neural networks of premature infants who have listened to this music, and in particular a network involved in many sensory and cognitive functions, are developing much better. "At birth, these babies' brains are still immature. Brain

development must therefore continue in the intensive care unit, in an incubator, under very different conditions than if they were still in their mother's womb," said Petra Huppi, a professor at the UNIGE, who directed this work. Scientists used functional MRI at rest on all three groups of children. Without music, premature babies generally had poorer functional connectivity between brain areas than full-term babies, confirming the negative effect of prematurity



Microbes in body could help predict future health

May 30, 2019/The Hindu

We share our bodies with trillions of microbes that are critical to staying healthy, but now scientists are getting a much-needed close look at how those bugs can spur disease. A single test to see what gut bacteria you harbour would not tell much. Research published on Wednesday found that repeat testing spotted the microbial zoo changing in ways that eventually may help doctors determine who's at risk of preterm birth, inflammatory bowel disease, even diabetes. At issue is what's called the microbiome, the community of bacteria, viruses and fungi that live on the skin or in the gut, nose or reproductive tract. "The instability of our microbiome might be an early indicator of something going awry," said Dr. Lita Proctor, at the National Institutes of Health. For a year, a Harvard-led team tracked 132 people with conditions such as Crohn's disease and some healthy people for comparison. As the diseases wax and wane, so does microbial activity, researchers reported in the journal Nature. Surprisingly, many times a patient's gut microbiome changed radically in just a few weeks before a flare-up. Some of the microbes produce molecules that keep the intestinal lining healthy, likely one reason the disease worsened when those bugs disappeared, Proctor said. Also in Nature, a Stanford University-led team tracked 106 people for four years, some healthy and some pre-diabetic. Up to 10% of pre-diabetics will develop diabetes each year, but there's little way to predict who. The researchers did quarterly tests for microbial, genetic and molecular changes, plus testing when the volunteers caught a respiratory infection and even while some deliberately put on and lost weight. Not surprisingly, they found a list of microbial and inflammatory early warning signs of brewing diabetes. But most interestingly, people who are insulin-resistant showed delayed immune responses to respiratory infections, correlating with tamped-down microbial reactions.

Energy drinks may harm your heart: Study

May 30, 2019/Hindustan Times

Consuming too many energy drinks in a short timespan may increase blood pressure and disrupt heart rhythm, a study has found. For the study, published in the Journal of the American Heart Association, enrolled 34 healthy volunteers between the ages of 18 and 40 years. Participants were randomly assigned to drink 32 ounces of one of two commercially available caffeinated energy drinks or a placebo drink on three separate days. The drinks were consumed within a 60-minute period but no faster than one 16-ounce bottle in 30 minutes. Researchers at the University of the Pacific in the US measured the electrical activity of the volunteers' hearts by electrocardiogram, which records the way a heart is beating. They also recorded participant's blood pressure. All measurements were taken at the study's start and every 30 minutes for four hours after drink consumption. Both energy beverages tested contained 304 to 320 milligrams of caffeine per 32

fluid ounces. Caffeine at doses under 400 milligrams is not expected to induce any electrocardiographic changes. Other common ingredients in the energy drinks in the study included taurine (an amino acid), glucuronolactone (found in plants and connective tissues) and B-vitamins. The placebo drink contained carbonated water, lime juice and cherry flavouring. "We found an association between consuming energy drinks and changes in QT intervals and blood pressure that cannot be attributed to caffeine," said Sachin A Shah, a professor at University of the Pacific. "We urgently need to investigate the particular ingredient or combination of ingredients in different types of energy drinks that might explain the findings seen in our clinical trial," said Shah. The study is the largest controlled study of the effects of energy drinks on the heart and blood pressure in young healthy volunteers.



Accelerate actions to slash tobacco use across South-East Asian Region: WHO

May 30, 2019/ The Tribune

WHO on Thursday asked its South-East Asian member countries including India to accelerate actions to slash tobacco consumption and said its use in all forms is a major cause of illness, disability and death across the region. It also asked its member countries to undertake targeted actions like developing youth-focused anti-tobacco campaigns, increasing the cost of the product and protecting people from its exposure. On the eve of the World No Tobacco Day, WHO Regional Director for South-East Asia, Poonam Khetrpal Singh said almost 246 million people smoke tobacco and just below 290 million consume it in a variety of smokeless forms in the region. "Together, both methods of consumption kill approximately 1.6 million people Region-wide every year, negatively impacting the sustainable development of whole communities and countries," Singh said. WHO's South-East Asia Region comprises of Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste. "Discouraging and preventing smoking in the workplace, tobacco users will be given new incentives to quit, while co-workers will be spared breathing the thousands of harmful chemicals tobacco smoke contains. "Importantly, smoke-free policies that apply to both covered and open public spaces are crucial to preventing lung cancer and chronic respiratory disease and helping stop the spread of tuberculosis," she said. To support and amplify the impact these interventions have, robust services should be provided to help tobacco users quit tobacco, Singh said. Region wide tobacco cessation counselling should be provided at the primary level, while quit lines should be free and accessible to all, she pointed out. Nicotine replacement therapies such as patches, gum or lozenges should likewise be at hand, with research showing that they can double the chance a person will successfully quit, especially when administered in conjunction with brief counselling and as part of a quit plan, she added. — PTI

Even short trips to polluted cities can make you sick: Study

May 31, 2019/ The Tribune

Even a short stay for travellers in cities with high levels of air pollution leads to breathing problems that can take them at least a week to recover from, according to a study conducted in India, Pakistan and China. Researchers at the New York University (NYU) School of Medicine in the US analysed pollution-related coughing and breathing difficulties, and recovery times upon returning home, in healthy, young adults travelling internationally. The finding, published in the Journal of

Travel Medicine, is timely given that the number of tourists travelling internationally is expected to grow to 1.8 billion by 2030, according to the World Tourism Organization. "We had several reports that tourists were feeling sick when visiting polluted cities, so it became important for us to understand what was really happening to their health," said Terry Gordon, a professor at NYU School of Medicine. They used international standards to categorise highly polluted cities as those having more than 100 microgrammes per cubic metre of particulate matter (PM), or air pollution dust. Moderate pollution is anything between 35 and 100 microgrammes per cubic metre of PM, and low pollution levels are anything less than that. "What travellers should know is that the potential effects of air pollution on their health are real and that they should take any necessary precautions they can," said MJ Ruzmyn Vilcassim, a postdoctoral fellow at NYU School of Medicine. Gordon suggests that those visiting highly polluted cities should consider wearing masks or consult a doctor prior to travel if they have preexisting respiratory or cardiac health difficulties, and to consider avoiding travel during certain months. For instance, farmers burn their fields during the winter months in New Delhi, raising levels of pollutants in the city

World No Tobacco Day: 34.6 percent adults in India are smokers

May 31, 2019/ India Today

31st May is celebrated World No Tobacco Day. The fact is that tobacco consumption compromises the health and economic well-being of all citizens in a country, from children, youth, men and women and its use present dangerous consequences for everyone. Both smoking and smokeless tobacco use cause many forms of cancers, leading to early, painful deaths of users in their productive years. It is therefore critical to raise awareness to help reduce use and protect the health of the people. According to the World Health Organization, tobacco kills more than 7 million people each year. Over 6 million deaths are a result of direct consumption, whereas 890 000 are the result of passive smoking. Nearly 100 million premature deaths have been recorded in the 20th century and the figure is set to increase to 1 billion by the 21st century . Smoking kills over one million people in India annually and is the fourth leading cause of non-communicable diseases (NCD) such as cancer and heart diseases, which account for 53 per cent of all deaths in India. E-cigarettes and other electronic nicotine delivery systems (ENDS) are used as substitutes for cigarettes or other tobacco products. Marketers of e-cigarettes and other ENDS often claim the ingredients are safe. But the aerosols these products contain addictive nicotine, flavorings, and a variety of other chemicals, some known to be toxic or to cause cancer. The levels of many of these substances appear to be lower than in traditional cigarettes, but the nicotine and other substances in these products can vary widely because they are not standardized.

With regards,

Syed Adil Shamim Andrabi
Information Interface Officer/PRO
Indian Council of Medical Research-
Department of Health Research
Ministry of Health and Family Welfare
proicmr@gmail.com, syed.adil@icmr.gov.in
Ext. 286, Phone. 26589130