The Lord is like a strong tower, where the righteous can go and be safe.
Proverbs 18:10

ISSN: 2651-821X
DIYARYO
KABITENYO
Nagmamalasakit sa lalawigan

Entered as FIRST CLASS MAIL at Imus Post Office with Business Mail Permit No. BC-19-06-249
Vol. 23 No. 14 | May 25-31, 2020 | P 10.00

Be alert, stand firm in the faith, be brave, be strong.
1 Corinthians 16:13

Cavite malls reopen

Malls in Cavite reopened at 10 a.m. last May 20, two days after they were temporary closed due to mall visitors failure to follow physical distancing rules.

The shopping centers close at 5 p.m., as earlier discussed with mall operators.

Governor Jonvic Remulla announced in a Facebook post that only residents with quarantine passes can go to the malls.

The governor said after his dialogue with mall operators last May 19, it has been resolved that it is their responsibility to 'manage the people who are waiting outside the malls.'

Last May 17, Remulla signed an ex-

Turn to page 2

Philippine Fleet commander, Rear Adm. Leonner Bernabe (left), welcomes officers and enlisted personnel of the BRP Bacolod City during its arrival in Sangley Point, Cavite City last May 20. The ship was tapped by the government to transport the PPE sets acquired from China for Department of Health personnel in their ongoing efforts to contain the coronavirus disease 2019 (Covid-19) outbreak. (Photo courtesy of Philippine Fleet)

BRP Bacolod City back in Sangley Point after PPE mission

The ship is now docked at the Commodore Rodiardo A Bonoan Benchung Area, Cavite City, said Philippine Fleet public affairs office chief, Lt. Vanessa Layco, in a statement last May 21.

Officers and enlisted personnel of BRP Bacolod City were welcomed home by Philippine Fleet commander, Rear Admiral Leonner P. Bernabe, in a simple ceremony.

"Arrival honors were accorded to the vessel in order to recognize the laudable efforts of the officers and crew who undergone the said transport mission," Layco said.

The BRP Bacolod City was tapped by the government to transport the PPE sets acquired from China by the Department of Budget and Management earlier this year for use of the Depart-

Turn to page 2

DIYARYO KABITENYO

ISSN [illegible]

ARNULFO BARCO
Publisher - Editor

[illegible] BARCO
Operations Manager

DIYARYO KABITENYO is published weekly and circulated throughout the province of Cavite. It has its editorial and business offices at Block 13 Lot 1 [illegible] [illegible] Cavite. It is registered at the Department of Trade and Industry-Region 4 [illegible]. Our telephone number is [illegible]

Subscription Rate:
1 month - P 40.00
3 months - 120.00
6 months - 240.00

Advertising Rate:
Commercial - P[illegible]/col. cm.
Legal - [illegible]/col. cm.

papi
Publishers Association of the Philippines, Inc.

Scientists find brain center that 'profoundly' shuts down pain

A Duke University research team has found a small area of the brain in mice that can profoundly control the animals' sense of pain.

Somewhat unexpectedly, this brain center turns pain off, not on. It's also located in an area where few people would have thought to look for an anti-pain center, the amygdala, which is often considered the home of negative emotions and responses, like the fight or flight response and general anxiety.

"People do believe there is a central place to relieve pain, that's why placebos work," said senior author Fan Wang, the Morris N. Broad Distinguished Professor of neurobiology in the School of Medicine. "The question is where in the brain is the center that can turn off pain."

"Most of the previous studies have focused on which regions are turned ON by pain," Wang said. "But there are so many regions processing pain, you'd have to turn them all off to stop pain. Whereas this one center can turn off the pain by itself."

The work is a follow-up to earlier research in Wang's lab looking at neurons that are activated, rather than suppressed, by general anesthetics. In a 2019 study, they found that general anesthesia promotes slow-wave sleep by activating the supraoptic nucleus of the brain. But sleep and pain are separate, an important clue that led to the new finding, which appears online May 18 in Nature Neuroscience.

The researchers found that general anesthesia also activates a specific subset of inhibitory neurons in the central amygdala, which they have called the CeAga neurons (CeA stands for central amygdala; ga indicates activation by general anesthesia). Mice have a relatively larger central amygdala than humans, but Wang said she had no reason to think we have a different system for controlling pain.

Using technologies that Wang's lab has pioneered to track the paths of activated neurons in mice, the team found the CeAga was connected to many different areas of the brain, "which was a surprise," Wang said.

By giving mice a mild pain stimulus, the researchers could map all of the pain-activated brain regions.

(BRP... from page 1)

ment of Health personnel in their ongoing efforts to contain the coronavirus disease 2019 (Covid-19) outbreak.

This shipment consisted of 700,000 KN95 face masks and 200,000 sets of PPE, comprised of goggles, coverall suits, head cover, gloves, shoe covers, surgical masks, and surgical gowns.

The Philippine Fleet also acknowledged its stakeholders, the Naval Reserve Command and the Pacific Roadlink Logistics Incorporation (PRLI) through their chief executive officer, Bennet Go, for their support and generosity in lending some 33 container vans, which was used to store the PPE sets while aboard the ship.

"I am proud that along with the imminent threat of Covid-19, you were able to overcome the rough seas and strong winds of the open sea, traversing surely and safely to equip our men and women in the front-lines. I commend you all for the smooth execution of this mission without any injury, sickness or casualty," Bernabe said to the BRP Bacolod City's crew.

The ship departed Sangley Point last April 21 and arrived in Zhangzhou Harbor, Port of Xiamen, China on April 25.

BRP Bacolod City left China on April 30 after completing the loading of the PPE sets and arrived in Davao City on May 8 where it unloaded all of its medical supplies.

It left Davao City on May 14 for Zamboanga City before heading back to Cavite City.

(CAVITE... from page 1)

ecutive order implementing the temporary closure of malls in their province. Cavite shifted from a strict enhanced community quarantine to a more relaxed general community quarantine on May 16.

Under the GCQ guidelines, malls and commercial centers can reopen, but only for non-leisure stores. They are also subject to physical distancing and other health protocols.

Republic of the Philippines
Province of Cavite
Municipality of Ternate
OFFICE OF THE MUNICIPAL CIVIL REGISTRAR

RA Form No. 11-1 (LCRO)

NOTICE FOR PUBLICATION

In Compliance with Section 5 of RA 9048, a notice is hereby served to the public that **RODRIGO V. PELAÑA** has filed on this office a petition for Change of First Name from "**HILARIO JR**" to "**RUENAVENTURA**" in the Certificate of Live Birth of **HILARIO PELINA JR.** who was born on **APRIL 12, 1948** in **TERNATE, CAVITE** and whose parents are **HILARIO PELINA** and **GREGORIA CASIANO**

Any person adversely affected by said petition may file his written opposition with this office not later than **8 JUNE 2020**

(Sgd.) MARIETA R. LOZANO
Municipal Civil Registrar

DIYARYO KABITENYO - May 25 and June 1, 2020

Republic of the Philippines
Province of Cavite
Municipality of Ternate
OFFICE OF THE MUNICIPAL CIVIL REGISTRAR

NOTICE TO THE PUBLIC

13 MARCH 2020

CCE 0006-2020/RA 10172

In compliance with the publication requirement and pursuant to OCRG Memorandum Circular No. 2013-1 Guidelines in the Implementation of Administrative Order No. 1 Series of 2012 (IRR on R.A. 10172), Notice is hereby served to the public that **MARICAR HERNANDEZ LOZANO-ROLLON** has filed with this office a petition for **CORRECTION OF ENTRY** in her husband's **DATE OF BIRTH** from "**April 31, 1972**" to "**April 01, 1972**" in the Certificate of Live Birth of **ROMMEL VEZCARA ROLLON** who was born in **Ternate, Cavite** and whose parents are **ROMEO OLANO ROLLON** and **PURIFICACION VEZCARA**

Any person adversely affected by said petition may file his written opposition with this office not later than **8 JUNE 2020**

(Sgd.) MARIETA R. LOZANO
Municipal Civil Registrar

DIYARYO KABITENYO - May 25 and June 1, 2020

COVID-19 lockdowns significantly impacting global air quality

Levels of two major air pollutants have been drastically reduced since lockdowns began in response to the COVID-19 pandemic, but a secondary pollutant — ground-level ozone — has increased in China, according to new research.

Two new studies in AGU's journal Geophysical Research Letters find nitrogen dioxide pollution over northern China, Western Europe and the U.S. decreased by as much as 60 percent in early 2020 as compared to the same time last year. Nitrogen dioxide is a highly reactive gas produced during combustion that has many harmful effects on the lungs. The gas typically enters the atmosphere through emissions from vehicles, power plants and industrial activities.

In addition to nitrogen dioxide, one of the new studies finds particulate matter pollution (particles smaller than 2.5 microns) has decreased by 35 percent in northern China. Particulate matter is composed of solid particles and liquid droplets that are small enough to penetrate deep into the lungs and cause damage.

The two new papers are part of an ongoing special collection of research in AGU journals related to the current pandemic.

Such a significant drop in emissions is unprecedented since air quality monitoring from satellites began in the 1990s, said Jenny Stavrakou, an atmospheric scientist at the Royal Belgian Institute for Space Aeronomy in Brussels and co-author of one of the papers. The only other comparable events are short-term reductions in China's emissions due to strict regulations during events like the 2008 Beijing Olympics.

The improvements in air quality will likely be temporary, but the findings give scientists a glimpse into what air quality could be like in the future as emissions regulations become more stringent, according to the researchers.

"Maybe this unintended experiment could be used to understand better the emission regulations," Stavrakou said. "It is some positive news among a very tragic situation."

However, the drop in nitrogen dioxide pollution has caused an increase in surface ozone levels in China, according to one of the new studies. Ozone is a secondary pollutant formed when sunlight and high temperatures catalyze chemical reactions in the lower atmosphere. Ozone is harmful to humans at ground-level, causing pulmonary and heart disease.

In highly polluted areas, particularly in winter, surface ozone can be destroyed by nitrogen oxides, so ozone levels can increase when nitrogen dioxide pollution goes down. As a result, although air quality has largely improved in many regions, surface ozone can still be a problem, according to Guy Brasseur, an atmospheric scientist at the Max Planck Institute for Meteorology in Hamburg, Germany, and lead author of one of the new studies.

"It means that by just reducing the [nitrogen dioxide] and the particles, you won't solve the ozone problem," Brasseur said.

Stavrakou and her colleagues used satellite measurements of air quality to estimate the changes in nitrogen dioxide pollution over the major epicenters of the outbreak: China, South Korea, Italy, Spain, France, Germany, Iran and the United States.

They found that nitrogen dioxide pollution decreased by an average of 40 percent over Chinese cities and by 20 to 38 percent over Western Europe and the United States during the 2020 lockdowns, as compared to the same time in 2019.

Exercise improves memory, boosts blood flow to brain

Scientists have collected plenty of evidence linking exercise to brain health, with some research suggesting fitness may even improve memory. But what happens during exercise to trigger these benefits? New UT Southwestern research that mapped brain changes after one year of aerobic workouts has uncovered a potentially critical process: Exercise boosts blood flow into two key regions of the brain associated with memory. Notably, the study showed this blood flow can help even older people with memory issues improve cognition, a finding that scientists say could guide future Alzheimer's disease research.

"Perhaps we can one day develop a drug or procedure that safely targets blood flow into these brain regions," says Binu Thomas, Ph.D., a UT Southwestern senior research scientist in neuroimaging. "But we're just getting started with exploring the right combination of strategies to help prevent or delay symptoms of Alzheimer's disease. There's much more to understand about the brain and aging."

The study, published in the journal of Alzheimer's Disease, documented changes in long-term memory and cerebral blood flow in 30 participants, each of them 60 or older with memory problems. Half of them underwent 12 months of aerobic exercise training; the rest did only stretching.

The exercise group showed 47 percent improvement in memory scores after one year compared with minimal change in the stretch participants. Brain imaging of the exercise group, taken while they were at rest at the beginning and end of the study, showed increased blood flow into the anterior cingulate cortex and the hippocampus — neural regions that play important roles in memory function.

Other studies have documented benefits for cognitively normal adults on an exercise program, including previous research from Thomas that showed aging athletes have better blood flow into the cortex than sedentary older adults. But the new research is significant because it plots improvement over a longer period in adults at high risk to develop Alzheimer's disease.

"We've shown that even when your memory starts to fade, you can still do something about it by adding aerobic exercise to your lifestyle," Thomas says.

The search for dementia interventions is becoming increasingly pressing. More than 5 million Americans have Alzheimer's disease, and the number is expected to triple by 2050.

Recent research has helped scientists gain a greater understanding of the molecular genesis of the disease, including a 2018 discovery from UT Southwestern's Peter O'Donnell Jr. Brain Institute that is guiding efforts to detect the condition before symptoms arise. Yet the billions of dollars spent on researching how to prevent or slow dementia have yielded no proven treatments that would make an early diagnosis actionable for patients.

UT Southwestern scientists are among many teams across the world trying to determine if exercise may be the first such intervention.

Subcellular chatter regulates longevity

As people get older, they often feel less energetic, mobile or active. This may be due in part to a decline in mitochondria, the tiny powerhouses inside of our cells, which provide energy and regulate metabolism. In fact, mitochondria decline with age not only in humans, but in many species. Why they do so is not well understood. Scientists at the Max Planck Institute for Biology of Ageing in Cologne set out to understand how mitochondrial function is diminished with age and to find factors that prevent this process. They found that communication between mitochondria and other parts of the cell plays a key role.

For their studies, the scientists used the simple roundworm, Caenorhabditis elegans, an important model system for ageing research. Over half the genes of this animal are similar to those found in humans, and their mitochondria also decline with age. From their research, the scientists found a nuclear protein called NFYB-1 that switches on and off genes affecting mitochondrial activity, and which itself goes down during ageing. In mutant worms lacking this protein, mitochondria don't work as well and worms don't live as long.

Unexpectedly, the scientists discovered that NFYB-1 steers the activity of mitochondria through another part of the cell called the lysosome, a place where biomolecules are broken down and recycled as nutrients. "We think the lysosome talks with the mitochondria through special ties called cardiolipins and ceramides, which are essential to mitochondrial activity," says Max Planck Director, Adam Antebi, whose laboratory spearheaded the study.

RNA molecules in maternal blood may predict pregnancies at risk for preeclampsia

Small non-coding RNA molecules, called microRNAs (miRNAs), found and measured in the blood plasma of asymptomatic pregnant women may predict development of preeclampsia, a condition characterized by high blood pressure and abnormal kidney function that affects roughly 5 to 8 percent of all pregnancies. Preeclampsia is responsible for a significant proportion of maternal and neonatal deaths, low birth weight and is a primary cause of premature birth.

The findings are reported in the May 19, 2020 issue of Cell Reports Medicine by researchers at University of California San Diego School of Medicine and Sera Prognostics, Inc., a Salt Lake City-based company that makes diagnostics tests for predicting the risk of premature birth.

"The ability to identify pregnancies at high risk for developing preeclampsia would be of great value to patients and their doctors to better personalize prenatal care," said senior author Louise Laurent, MD, PhD, professor in the Department of Obstetrics, Gynecology and Reproductive Sciences at UC San Diego School of Medicine. "This would enable prompt detection and optimal management of pregnancies that develop preeclampsia. And the information could be used to better identify participants for research studies testing preventive therapies."

Preeclampsia is a common and serious complication of pregnancy. It is estimated to be the cause of 15 percent of preterm births and 14 percent of maternal deaths worldwide. Symptoms of preeclampsia — most notably hypertension, but also sudden weight gain, swelling, severe headaches, abdominal pain and nausea — appear during the second half of pregnancy, though Laurent said studies suggest the disorder is caused by problems with placental development early in pregnancy. Delayed diagnosis and suboptimal management of preeclampsia typically results in poorer outcomes for mother and child.

The new study involved 141 subjects (49 cases, 92 controls) in the discovery cohort and 71 subjects (24 cases, 47 controls) in a separate verification cohort. Researchers found that two single-miRNA biomarkers (univariate) and 20 two-miRNA (bivariate) biomarkers measured in the serum of asymptomatic pregnant women between 17 and 28 weeks of pregnancy were able to predict later onset of preeclampsia.

Laurent said the next step will be to validate these miRNA biomarkers in a large independent pregnancy cohort, with the ultimate goal of developing a clinical test for screening women early in pregnancy for increased risk of preeclampsia.

Simple question can lead to remedy for older adults' dizziness and impaired balance

Does lying down or turning over in bed make you feel dizzy? This simple question effectively identifies whether a person suffers from benign paroxysmal positional vertigo, which is harmless and treatable, a University of Gothenburg thesis shows.

Benign paroxysmal positional vertigo (BPPV) is common, and often undiagnosed, among senior citizens. Many suffer in silence from dizziness and impaired balance, which have a major impact on their quality of life. Although these symptoms are not life-threatening, those affected are at an elevated risk of tasting unsteady and accidentally falling when they walk.

The purpose of a new thesis presented at Sahlgrenska Academy has been to boost knowledge of older people's dizziness and unsteady gait, focusing on BPPV. The author, Ellen Lindell, is a specialist ear, nose and throat (ENT) doctor at Södra Älvsborg Hospital in Borås, where some of the research was carried out.

One of the studies described in the thesis comprised 149 patients – 96 women and 53 men – referred for ENT treatment because of dizziness. In conjunction with being examined, each patient filled in a questionnaire composed of 15 questions. The question most clearly connected with the diagnosis of BPPV was the one about whether the patient felt dizzy on turning over in bed.

Landmark recommendations on development of artificial intelligence and the future of global health

A landmark review of the role of artificial intelligence (AI) in the future of global health published in The Lancet calls on the global health community to establish guidelines for development and deployment of new technologies and to develop a human-centered research agenda to facilitate equitable and ethical use of AI. The review and recommendations were developed by Nina Schwalbe, MPH, adjunct professor in the Heilbrunn Department of Population and Family Health at the Columbia University Mailman School of Public Health, and Principal Visiting Fellow at United Nations University — International Institute for Global Health, and Brian Wahl, PhD, assistant scientist in the Department of International Health at the Johns Hopkins Bloomberg School of Public Health.

Advances in information technology infrastructure and mobile computing power in many low and middle-income countries (LMICs) have raised hopes that AI could help to address challenges which are unique to the field of global health and accelerate the achievement of the health-related Sustainable Development Goals (SDGs) and Universal Health Coverage (UHC). However, the deployment of AI-enabled interventions must be exercised with care and caution for individuals and societies to benefit equally, especially in the current context of the digital tools and systems being rapidly deployed in response to the novel coronavirus disease 2019 (COVID-19).

"Especially during the COVID-19 emergency, we cannot ignore what we know about the importance of human-centered design and gender bias of algorithms," said Schwalbe. "Thinking through how AI interventions will be adapted within the context of the health systems in which they are deployed must be part of every study."

"This review marks an important point in our rapidly developing digital age at which to reflect on the impressive opportunities that AI may hold, but also consider what we are urgently missing to protect those most at risk – exciting developments but many are being rolled out without adequate evidence or appropriate safeguards" said Dr. Naomi Lee, Senior Executive Editor at The Lancet.

According to Wahl and Schwalbe, artificial intelligence is already being used in high-resource settings to address COVID-19 response activities, including patient risk assessment and managing patient flow. They point out, however, that while artificial intelligence could support the COVID-19 response in resource-limited settings, there are currently few mechanisms to ensure its appropriate use in such settings.

As the field of AI is rapidly evolving in global health, and in light of the COVID-19 response, the review highlights the following recommendations:

Incorporate aspects of human-centered design into the development process, including starting from a needs-based rather than a tool-based approach;

Ensure rapid and equitable access to representative datasets;

Establish global systems for assessing and reporting efficacy and effectiveness of AI-driven interventions in global health;

Develop a research agenda that includes implementation and system-related questions on the deployment of new AI-driven interventions;

Develop and implement global regulatory, economic, and ethical standards and guidelines that safeguard the interests of LMICs.

Schwalbe and Wahl developed these recommendations through an extensive review of the peer-reviewed literature to help ensure that AI helps to improve health in LMICs and contribute to the achievement of the SDGs and UHC, to the COVID-19 response.

Emerging viral diseases causing serious issues in west Africa

In a new study, researchers from the Colorado School of Public Health at the University of Colorado Anschutz Medical Campus call attention to the emergence of mosquito-borne viral outbreaks in West Africa, such as dengue (DENV), chikungunya (CHIKV) and Zika (ZIKV) viruses.

The findings are published in the current issue of Acta Tropica.

"Emerging viruses are at the forefront of everyone's attention due to the COVID-19 pandemic. It has underscored the importance of preparing for and preventing large viral outbreaks that can have massive public health and economic consequences," said lead researcher Andrea Buchwald, PhD, a postdoctoral fellow in the Colorado School of Public Health.

Buchwald adds, "We hope our research will prompt the development of early warning systems and adoption of control measures to prevent infectious outbreaks in West Africa. This will greatly impact the spread and severity of future outbreaks."

The researchers reviewed 50 years of literature on arboviruses in West Africa to evaluate evidence of DENV, ZIKV and CHIKV and the distribution of their Aedes mosquito vectors in the region. This research delivers updates to previous estimates made, providing a current, region-specific synthesis of this rapidly evolving public health challenge.

"Large arboviral outbreaks will occur around the world. It is merely a question of where and when. Building awareness and surveillance capacity before the outbreaks occur can help detect outbreaks early and enable prompt and effective response to reduce health impacts," said Elizabeth Carlton, assistant professor of environmental and occupational health at the Colorado School of Public Health and co-author of the study.

The researchers found that there is strong evidence that transmission of arboviral diseases including CHIKV, ZIKV and DENV is occurring in urban areas of West Africa and that the nature of transmission is distinct from the rural transmission of yellow fever virus that has historically been present in the region. The findings also provide evidence that the epidemiology of arboviral disease in West Africa has shifted and rapid urbanization and climate change have the potential to increase the risk of outbreaks in the future.

Carlton adds, "Our study shows how urbanization and climate change can impact mosquito-borne virus transmission in West Africa. However, it also highlights the need for steps to be taken in the region to fill critical information gaps so that we can better define the spatial and temporal patterns of arboviral disease risk."

The researchers outline some steps that can be taken to reduce the risk of major outbreaks, such as building testing capacity, investing in surveillance and implementing mosquito control measures.

Replacing time spent sitting with sleep or light activity may improve your mood

Moving more and sitting less was a challenge for many of us, even before states started issuing stay-at-home orders. Despite disruptions to our daily work and exercise routines, there are some subtle changes we can make at home to help improve our mental health.

New research, published by the American Journal of Preventive Medicine, found that substituting prolonged sedentary time with sleep was associated with lower stress, better mood and lower body mass index (BMI), and substituting light physical activity was associated with improved mood and lower BMI across the next year. Jacob Meyer, lead author and assistant professor of kinesiology at Iowa State University, says light activity can include walking around your home office while talking on the phone or standing while preparing dinner.

"People may not even think about some of these activities as physical activity," Meyer said. "Light activity is much lower intensity than going to the gym or walking to work, but taking these steps to break up long periods of sitting may have an impact."

Meyer and colleagues used data collected as part of the Energy Balance Study at the University of South Carolina. For 10 days, study participants, ranging in age from 21 to 35, wore an armband that tracked their energy expenditure. Meyer, director of the Wellbeing and Exercise Lab at Iowa State, says the data allowed researchers to objectively measure sleep, physical activity and sedentary time, rather than relying on self-reports.

DIYARYO KABITENYO
Nagmamalasakit sa lalawigan
Vol. 23 No. 14 May 25-31, 2020 P 10.00

Lab engineers 3D-functional bone tissues

Dr. Akhilesh K. Gaharwar, associate professor, has developed a highly printable bioink as a platform to generate anatomical-scale functional tissues. This study was recently published in the American Chemical Society's Applied Materials and Interfaces.

Bioprinting is an emerging additive manufacturing approach that takes biomaterials such as hydrogels and combines them with cells and growth factors, which are then printed to create tissue-like structures that imitate natural tissues.

One application of this technology could be designing patient-specific bone grafts, an area that is gaining interest from researchers and clinicians. Managing bone defects and injuries through traditional treatments tends to be slow and expensive. Gaharwar said that developing replacement bone tissues could create exciting new treatments for patients suffering from arthritis, bone fractures, dental infections and craniofacial defects.

Bioprinting requires cell-laden biomaterials that can flow through a nozzle like a liquid, but solidify almost as soon as they're deposited. These bioinks need to act as both cell carriers and structural components, requiring them to be highly printable while providing a robust and cell friendly microenvironment. However, current bioinks lack sufficient biocompatibility, printability, structural stability and tissue specific functions needed to translate this technology to preclinical and clinal applications.

To address this issue, Gaharwar's research group is leading efforts in developing advanced bioinks known as Nanoengineered Ionic-Covalent Entanglement (NICE) bioinks. NICE bioinks are a combination of two reinforcement techniques (nanoreinforcement and ionic-covalent network), which together provide more effective reinforcement that results in much stronger structures.

Dairy-rich diet linked to lower risks of diabetes and high blood pressure

Eating at least two daily servings of dairy is linked to lower risks of diabetes and high blood pressure, as well as the cluster of factors that heighten cardiovascular disease risk (metabolic syndrome), finds a large international study published online in BMJ Open Diabetes Research & Care.

The observed associations were strongest for full fat dairy products, the findings indicated.

Previously published research has suggested that higher dairy intake is associated with a lower risk of diabetes, high blood pressure, and metabolic syndrome. But these studies have tended to focus on North America and Europe to the exclusion of other regions of the world.

To see whether these associations might also be found in a broader range of countries, the researchers drew on people taking part in the Prospective Urban Rural Epidemiology (PURE) study.

Participants were all aged between 35 and 70 and came from 21 countries: Argentina; Bangladesh; Brazil; Canada; Chile; China; Colombia; India; Iran; Malaysia; Palestine; Pakistan; Philippines; Poland; South Africa; Saudi Arabia; Sweden; Tanzania; Turkey; United Arab Emirates; and Zimbabwe.