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

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

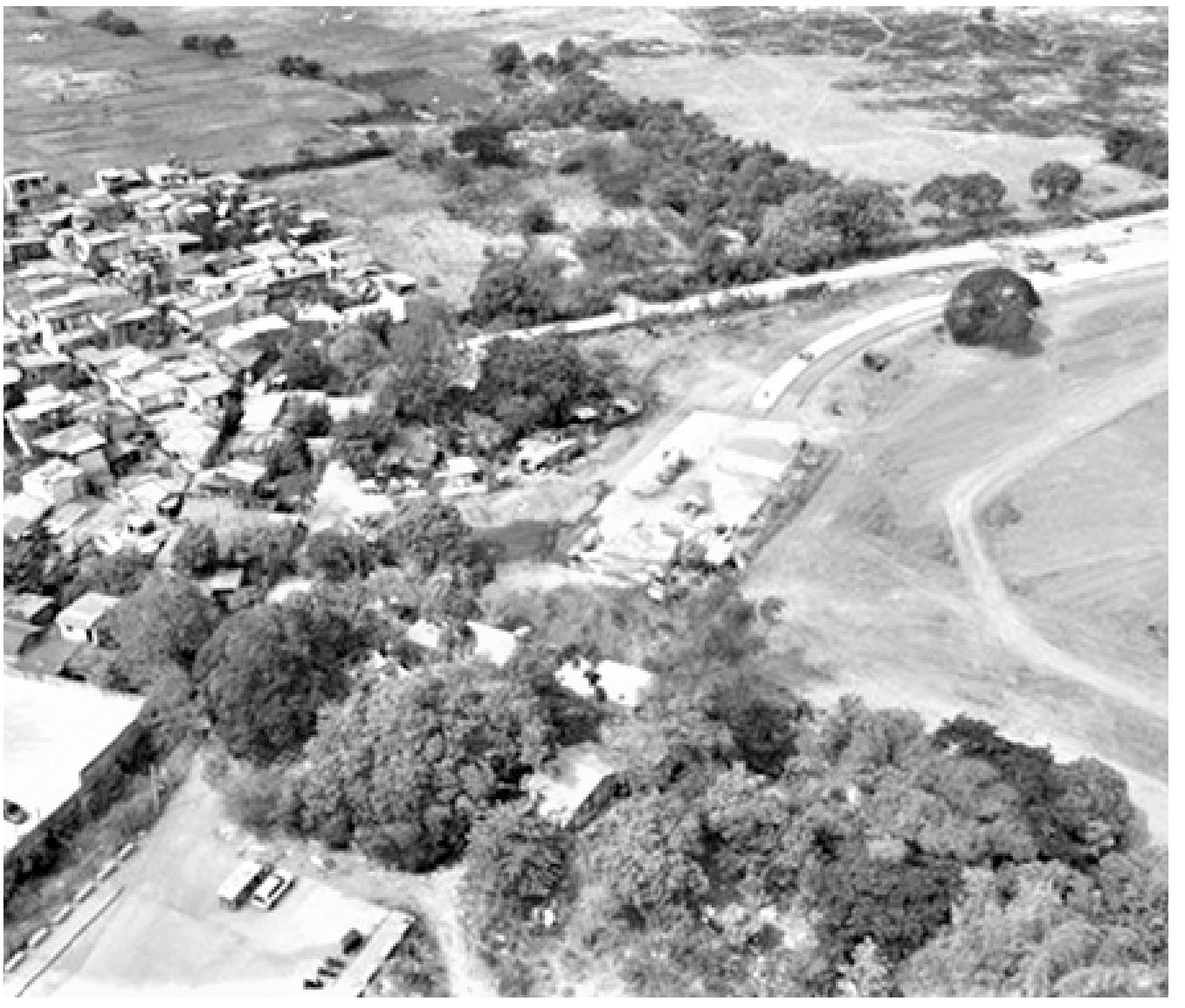
DPWH prioritizes completion of diversion road in GenTri

The Department of Public Works and Highways is prioritizing the completion of a three-kilometer diversion road in General Trias City, Cavite, a project that has been delayed for 10 years due to funding gaps and legal issues.

Public Works Secretary Vince Dizon said the agency is fast tracking the Punta-Open Canal diversion road as part of the government's effort to unclog stalled infrastructure works.

To address long standing right-of-way issues, the DPWH will release funds directly to the local government unit to speed up land acquisition and clearing operations.

Dizon said this localized approach will now serve as the standard method for resolving right-of-way concerns in future infrastructure projects nationwide.



5 former frat members arrested over student's hazing death

GENERAL TRIAS CITY, Cavite — Five former members of the Tau Gamma Phi fraternity were arrested in connection with the hazing death of a freshman maritime student in this city three months ago.

The suspects were arrested based on a warrant issued by Judge Francisco Victor Collado Jr. of the Cavite Regional Trial Court Branch 90.

Authorities said no bail was recommended for the temporary release of the suspects, who were apprehended by General Trias police in Barangay Navarro on June 3.

Cavite police director Col. Ariel Red said the accused are facing charges over the death of Mark Kenneth Alcedo during a hazing rite in March.

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ARNULFO BARCO
(May 14, 1951 - September 2, 2024)
Founder

GENER BARCO
Publisher-Editor

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The supplements older adults actually need and the ones they don't

The use of dietary supplements has increased sharply in recent years. Vitamins, minerals and other nutritional products are often marketed as simple ways to boost energy, support immunity, protect brain health or even promote longevity. For many people, taking supplements can feel like a sensible, proactive health habit.

But this perception can be misleading. For people who already have adequate nutrition, many supplements offer little or no measurable benefit. Some are simply an unnecessary expense. Others are not risk-free: high doses of certain vitamins and minerals can cause toxicity, interfere with medications or produce unintended health effects.

For older adults, however, the picture is more complicated. The most useful question is not simply whether supplements are "good" or "bad", but whether someone is actually deficient, what might be causing that deficiency and whether a supplement is the safest way to address it.

Nutritional deficiencies become more common with age. Appetite may decrease, oral health can worsen, chronic illnesses become more common and many older people take medicines that affect how nutrients are absorbed, used or cleared from the body. Oral health problems, including tooth loss, gum disease and poorly fitting dentures, can also make chewing difficult and reduce dietary variety.

Later life is often surrounded by unhelpful food messages: eat less, lose weight, avoid "heavy" meals, stick to soft foods. But these messages can collide with the body's continuing need for protein, vitamins and minerals. Over time, small meals, soups, toast and tea can become a diet that fills the stomach without meeting nutritional needs.

This does not mean every older person needs supplements. It means supplementation should be targeted: based on confirmed deficiencies, clear risk factors, medication use or evidence that someone is not getting enough from food.

Vitamin B12 is one of the clearest examples. B12 deficiency becomes more common with age, partly because the stomach may produce less acid, which is needed to release B12 from food. Low B12 can cause anaemia, fatigue, nerve problems, numbness or tingling, and sometimes memory problems or confusion. Certain medicines, including metformin and proton pump inhibitors, can increase the risk further. High-dose oral B12 often works well, although some people need injections.

Folate is also important, especially for red blood cell formation and DNA production. Low folate can raise homocysteine, a blood marker that has been associated with cardiovascular disease and cognitive decline, though this does not prove that folate supplements prevent either. Folate or other B vitamins may help selected groups, such as people with low folate or B12 status, raised homocysteine or mild cognitive impairment. But B12 deficiency should be considered before folate is prescribed on its own, because folate can improve some blood signs of B12 deficiency while nerve damage continues.

Vitamin D is another common concern. Deficiency is more likely in older adults with limited sun exposure, reduced mobility, darker skin, care-home residence or diets low in vitamin D-rich foods. Supplementation may be appropriate when levels are low, sun exposure is limited, or someone has osteoporosis, recurrent falls or high fracture risk. But more is not automatically better. A large trial found that vitamin D supplementation did not significantly reduce fracture risk in generally healthy midlife and older adults who were not selected for deficiency.

Calcium and magnesium matter for bone, muscle and nerve function, but where possible they should come from food. Supplements may be useful when dietary intake is insufficient or osteoporosis is present, but excessive intake should be avoided. Magnesium is often promoted for sleep, but evidence for routine use as an insomnia treatment remains limited.

Multivitamins can be useful for older adults who eat very little or have poor dietary variety, but they should not be treated as nutritional insurance for everyone. In a large study of three US cohorts, daily multivitamin use was not associated with a lower risk of death. Other research is exploring whether multivitamins may affect markers of biological ageing, but it remains unclear whether this translates into better health, independence or lifespan.

Republic of the Philippines
Region IVA - CALABARZON
Province of Cavite
MUNICIPALITY OF ALFONSO

BAGONG PILIPINAS

OFFICE OF THE MUNICIPAL CIVIL REGISTRAR

Publication Notice
R.A. 10172

NOTICE TO THE PUBLIC

Date: MAY 28, 2026

CCE - 0032-2026 R.A. 10172

In Compliance with the publication requirement and pursuant to OCRG Memorandum Circular No. 2013-1 Guidelines in the Implementation of the Administrative Order No. 1 Series of 2012 (IRR on R. A. 10172), Notice is hereby served to the public that **ADELAIDA VICEDO DEMILLO-VITALICIO** has filed with this office, a petition **correction of entry in Date of Birth** from J**ULY 6, 1959** to **JULY 2, 1959** in the certificate of Live Birth of ADALAIDA VECIDO DIMILLO at ALFONSO, CAVITE and whose parents are RUPERTO DIMILLO and HERMIGILDA VECIDO.

Any person adversely affected by said petition may file his written opposition with this office not later than JUNE 15, 2026.

(Sgd.) **TERESITA A. GALANG**
Civil Registrar

Publication : DIYARYO KABITENYO News Publishing Service
Dates : June 1 & 8, 2026

EXTRAJUDICIAL SETTLEMENT OF THE ESTATE OF THE LATE JULIA PERDITO AMPARO

NOTICE is hereby given that the estate of the late **JULIA PERDITO AMPARO** who died intestate on August 6, 2022 at General Trias, Cavite and at the time of her death, her residence was at Purok 5, Brgy. Hugo Perez, Trece Martires City, Cavite, consisting of one-half (1/2) portion pertaining to her conjugal share in a parcel of agricultural land situated in Bo. of Buenavista, Municipality of General Trias, Province of **Cavite**, with an area of ELEVEN THOUSAND ONE HUNDRED FORTY FIVE (11,145) square meters covered by Transfer Certificate of Title No. EP-135 under Tax Declaration No. 242-0015-00486 has been adjudicated and extrajudicially settled by and among her heirs in pro-indiviso equal shares on May 29, 2026 at the City of Dasmariñas, Cavite before Notary Public Atty. Miriam S. Clorina and entered in her Notarial Register as Doc. No. 235; Page No. 57; Book No. 351; Series of 2026.

(Sgd.) **All Heirs**

Publication : DIYARYO KABITENYO News Publishing Service
Dates : June 1, 8 & 15, 2026

REPUBLIC OF THE PHILIPPINES
FOURTH JUDICIAL REGION
REGIONAL TRIAL COURT
OFFICE OF THE CLERK OF COURT
CITY OF IMUS, CAVITE

BDO UNIBANK, INC.,
Petitioner-Mortgagee,

EXTRA JUDICIAL FORECLOSURE OF REAL ESTATE MORTGAGE UNDER ACT 3135 AS AMENDED BY ACT 4118

FC Case No. 19793-26

-Versus-

MARITA R. DELA CRUZ
Respondent-Mortgagors.
x----------x

NOTICE OF EXTRA-JUDICIAL SALE

Upon extra-judicial petition for sale under Act No. 3135 as amended by Act 4118 filed by the **BDO UNIBANK, INC** mortgagee, with principal office address at **33rd floor, BDO Corporate Center Ortigas, No 12 ADB Avenue, Mandaluyong City against MARITA R. DELA CRUZ represented by her Attorney-in-fact SHERYL SABLAN VILLANUEVA,** mortgagors, with residential and postal address at **#1081 Roxas Street, Sampaloc, East Manila/or Lot 3 Block 2, Grandiose South, Brgy. Bucandala V, Imus, Cavite** to satisfy the mortgage indebtedness which as of **April 16, 2026** amounts to **ONE MILLION FIVE HUNDRED SEVENTEEN THOUSAND ONE HUNDRED SEVENTY TWO & 94/100 (P1,517,172.94)** Philippine Currency, including interest and penalty charges but excluding attorney's fees, sheriff's fees, and all other charges incidental to this foreclosure and sale, the undersigned Sheriff IV will sell at public auction on **July 21, 2026**, at 10:00 a.m. or soon thereafter at the main entrance of the Office of the Clerk of Court, RTC-Imus, Bulwagan Ng Katarungan, Aguinaldo Highway, Imus City, Cavite, to the highest bidder for CASH and in Philippine Currency, the following properties with all the improvements therein, to wit:

Transfer Certificate of Title
No. 057-2018013624

IT IS HEREBY CERTIFIED *that certain land situated in* BARANGAY OF BUCANDALA - V, MUNICIPALITY OF IMUS, PROVINCE OF CAVITE, ISLAND OF LUZON, *bounded and described as follows:*

A PARCEL OF LAND (LOT 3, BLOCK 2 OF THE SUBDIVISION PLAN PSD-04-227178, BEING A PORTION OF LOT 2400-A, PSD-63558, L.R.C. RECORD NO. 8843), SITUATED IN BRGY. BUCANDALA V, MUN. OF IMUS, PROVINCE OF CAVITE. BOUNDED ON THE SW., ALONG LINE 1-2 BY ROAD LOT 4 (8.00 M. WIDE), OF THE SUBDIVISION PLAN; ON THE NW., ALONG LINE 2-3 BY LOT 2, BLK. 2, BOTH OF THE SUBDIVISION PLAN; ON THE NE., ALONG LINE 4-1 BY LOT 2400-B, PSD-63558. BEGINNING AT A POINT MARKED "1" ON PLAN BEING, S. 52 DEG. 01' E., 200.80 M. FROM MON. NO. 110, IMUS ESTATE. THENCE N. 11 DEG. 50' W., 8.00 M. TO POINT 2; THENCE N. 78 DEG. 10' E., 9.00 M. TO POINT 3; THENCE S. 11 DEG. 50' E., 8.00 M. TO POINT 4; THENCE S. 78 DEG. 10' W., 9.00 M. TO THE POINT OF BEGINNING, CONTAINING AN AREA OF SEVENTY TWO (72) SQUARE METERS. ALL POINTS REFERRED TO ARE INDICATED ON PLAN AND ARE MARKED ON THE GROUND BY OLD PS CYL. CONC. MONS. 15 X 60CM; BEARINGS; TRUE; DATE OF ORIGINAL SURVEY, JULY 27, 1905-JUNE 11, 1908; AND THAT OF THE SUBDIVISION SURVEY, JUNE 12 TO 19, 2012; AND WAS APPROVED ON DECEMBER 12, 2012.

is registered in accordance with the provision of the Property Registration Decree in the name of
Owner: MARITA R. DE LA CRUZ, OF LEGAL AGE, FILIPINO, SINGLE.
Address: #1081 ROXAS ST., SAMPALOC, MANILA.

as owner thereof in fee simple, subject to such of the encumbrances mentioned in Section 44 of said Decree as may be subsisting.

All sealed bid must be submitted to the undersigned on the above stated time and date.

In the event the public auction should not take place on the said date, it shall be held on **July 28, 2026** at 10 a.m. without prior notice.

Prospective bidders/buyers are hereby enjoined to investigate for themselves the titles to the said properties and encumbrances thereon if any there be.

Imus City, Cavite, Philippines, May 14, 2026.

(Sgd.) **AVREIL JOHN L. DAVID**
Sheriff IV

APPROVED:

(Sgd.) **ARMIE A. FRANCISCO**
Clerk of Court VI

COPY FURNISHED:

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C/O JACEL DL. FLORENCIO
33rd floor BDO Corporate Center Ortigas
No. 12 ADB Avenue, Mandaluyong City

MARITA R. DELA CRUZ,
#1081 Roxas Street, Sampaloc, East Manila /or
Lot 3 Block 2. Grandiose South, Brgy. Bucandala V, Imus, Cavite

Publication : DIYARYO KABITENYO News Publishing Service
Dates : June 8, 15 & 22, 2026

Cancer's favorite escape trick may actually make it easier to kill

Scientists have uncovered an unexpected way the immune system can attack cancer, a finding that challenges a long-standing principle in immunology and could lead to new approaches for cancer treatment and bone marrow transplantation.

The research was led by Dr. Pavan Reddy, director of the Dan L Duncan Comprehensive Cancer Center at Baylor College of Medicine (BCM), in collaboration with Dr. Arul Chinnaiyan, S P Hicks Endowed Professor of Pathology, and Dr. Marcin Cieslik, assistant professor of pathology, both at the University of Michigan Rogel Cancer Center. Their findings were published in Nature Immunology.

The immune system uses proteins known as major histocompatibility complexes (MHC) to help identify threats, including cancer cells and foreign (allogeneic) cells. For decades, scientists believed that MHC class I molecules primarily communicated with CD8+ T cells, often called "killer" T cells, while MHC class II molecules activated CD4+ T cells, commonly known as "helper" T cells.

This division has shaped much of modern immunology and cancer research.

The new study suggests the relationship is more complex than previously thought. The researchers identified a previously unrecognized role for the MHC class I pathway in immune

Turn to page 4

REPUBLIC OF THE PHILIPPINES
PROVINCE OF CAVITE
MUNICIPALITY OF TANZA
LOCAL CIVIL REGISTRY OFFICE

NOTICE OF PUBLICATION

In compliance with Sec. 5 of Rep. Act No. 9048, a notice is hereby served to the public that **MARITES M. BANTING** has filed with this office a petition for **CHANGE OF FIRST NAME** from **"MARIA TERESA" to "MARITES"** in the Certificate of Live Birth of one, MARIA TERESA P. MERCADO, who was born on September 9, 1968 at Tanza, Cavite and whose parents were EMILIANO B. MERCADO & NENITA R. PRODIGALIDAD.

Any person adversely affected by said petition may file his written opposition with this Office not later than **4th June 2026**.

(Sgd.) **OFELIA U. ARGUSON**
OIC-Municipal Civil Registrar

Publication : DIYARYO KABITENYO News Publishing Service
Dates : May 25 and June 1, 2026

REPUBLIC OF THE PHILIPPINES
PROVINCE OF CAVITE
MUNICIPALITY OF TANZA
LOCAL CIVIL REGISTRY OFFICE

NOTICE OF PUBLICATION

In compliance with Sec. 5 of Rep. Act No. 9048, a notice is hereby served to the public that **MA. DINA R. SAN JUAN** has filed with this office a petition for **CHANGE OF FIRST NAME** from **"DOLORES" to "MA. DINA"** in the Certificate of Live Birth of one, DOLORES D. REÑO, who was born on April 4, 1966 at Tanza, Cavite and whose parents were DELFIN O. REÑO & EDUARDA M. DATOR.

Any person adversely affected by said petition may file his written opposition with this Office not later than **4th June 2026**.

(Sgd.) **OFELIA U. ARGUSON**
OIC-Municipal Civil Registrar

Publication : DIYARYO KABITENYO News Publishing Service
Dates : May 25 and June 1, 2026

REPUBLIC OF THE PHILIPPINES
PROVINCE OF CAVITE
MUNICIPALITY OF TANZA
LOCAL CIVIL REGISTRY OFFICE

Publication Notice
R.A.10172

NOTICE TO THE PUBLIC

Date: June 4, 2026

CCE 0103-2026 RA 10172

In compliance with the publication requirement and pursuant to OCRG Memorandum Circular No. 2013-1 Guidelines in the Implementation of the Administrative Order No. 1, Series of 2012 (IRR on R.A. 10172), Notice is hereby served to the public that **KHENLEE AQUILLANO RAMOS**, has filed with this Office, a petition for **CORRECTION OF ENTRY IN CHILD'S SEX** from **"FEMALE"** to **"MALE"**, in the Certificate of Live Birth of **KHENLEE AQUILLANO RAMOS**, who was born on 28 October 2000 at Tanza, Cavite of parents NANCY A. AQUILLANO & RODERICK A. RAMOS.

Any person adversely affected by said petition may file his/her written opposition with this Office not later than **June 18, 2026**.

(Sgd.) **OFELIA U. ARGUSON**
OIC-Municipal Civil Registrar

Publication : DIYARYO KABITENYO News Publishing Service
Dates : June 8 & 15, 2026

REPUBLIC OF THE PHILIPPINES
PROVINCE OF CAVITE
MUNICIPALITY OF TANZA
LOCAL CIVIL REGISTRY OFFICE

NOTICE OF PUBLICATION

In compliance with Sec. 5 of Rep. Act No. 9048, a notice is hereby served to the public that **TEODULO E. RAMIREZ** has filed with this office a petition for **CHANGE OF FIRST NAME** from **"ORLANDO" to "TEODULO"** in the Certificate of Live Birth of one, ORLANDO RAMIREZ, who was born on November 27, 1955 at Tanza, Cavite and whose parents were ENRIQUE RAMIREZ & LEONCIA ESTACION.

Any person adversely affected by said petition may file his written opposition with this Office not later than **4th June 2026**.

(Sgd.) **OFELIA U. ARGUSON**
OIC-Municipal Civil Registrar

Publication : DIYARYO KABITENYO News Publishing Service
Dates : May 25 and June 1, 2026

Republic of the Philippines
OFFICE OF THE MUNICIPAL CIVIL REGISTRAR
Indang, Cavite

BAGONG PILIPINAS

Publication Notice
R.A. NO. 10172

NOTICE TO THE PUBLIC

CCE-0051-2026

In compliance with the publication requirement and pursuant to OCRG Memorandum Circular No. 2013-1 Guidelines in the Implementation of the Administrative Order No. 1 Series of 2012 (IRR on R.A. 10172), Notice is hereby served to the public that **VILMA P. ESPINELI** *has filed with this Office,* a petition for ***correction of entry in the date of birth*** from **4 January 1971** to **04 February 1971** in the **Certificate of Live Birth** of **VILMA P. ESPINELI** at Indang, Cavite and whose parents are **Geronima Pegollo** and **Aniano Espineli**.

Any person adversely affected by said petition may file his/her written opposition with this Office not later than **June 22, 2026**.

(Sgd.) **MERCI A. CHAVEZ**
Municipal Civil Registrar

Publication : DIYARYO KABITENYO News Publishing Service
Dates : June 8 & 15, 2026

AFFIDAVIT OF SELF-ADJUDICATION

NOTICE is hereby given that the estate of the late **TEONILA Y. KOA** who died intestate on November 08, 2024 in Metropolitan Medical Center, Tondo, Manila, consisting of a parcel of land she left at the time of her death, located at Bo. of Buenavista, Gen. Trias City, **Cavite**, covered by Transfer Certificate of Title No. T-208779 containing an area of FIVE HUNDRED NINETY FIVE (595) SQUARE METERS, more or less, has been self-adjudicated by her sole heir YOLANDA YAP KOA on June 4, 2026 at Trece Martirez City, Cavite, Philippines before Notary Public Atty. Cesar N. Santiago and entered in his Notarial Register as Doc. No. 385; Page No. 77; Book No. XXXIX; Series of 2026.

(Sgd.) **Affiant**

Publication : DIYARYO KABITENYO News Publishing Service
Dates : June 8, 15 & 22, 2026

(CANCER'S...from page 3)

responses driven by CD4+ T cells, challenging the traditional view that these pathways operate separately.

The project was the result of a years-long collaboration involving graduate students Emma Lauder and Meng-Chih Wu from BCM and Mahnoor Gondal from the University of Michigan, along with colleagues who contributed to multiple aspects of the research.

Using advanced transcriptomic analyses and functional studies in both mouse models and human samples, the researchers examined what happens when cancer cells lose MHC I expression.

Many tumors reduce or eliminate MHC I as a way to avoid detection by CD8+ T cells. However, the team discovered that this strategy may come with a significant downside.

When MHC I levels were reduced, cancer cells became more susceptible to attacks from CD4+ T cells. These helper T cells triggered ferroptosis, a form of cell death driven by iron-dependent oxidative stress.

In other words, cancer cells that evade one branch of the immune system may become more vulnerable to another.

The researchers found that this ferroptosis response was not limited to cancer. Similar effects were observed in models of graft-versus-host disease, a serious complication that can occur after bone marrow transplantation.

To determine whether these findings were relevant in real-world patients, Chinnaiyan's team analyzed large transcriptomic and clinical datasets from people who had received checkpoint inhibitor therapies for solid tumors. Their analysis showed correlations between the newly identified immune mechanism and patient outcomes.

The results indicate that lowering MHC I expression can increase the ability of CD4+ T cells to destroy target cells, whether those cells are cancerous or allogeneic.

Omega-3 fish oil shows promise against type 2 diabetes

Fish oil may have a surprising role in the fight against insulin resistance, especially in a form of type 2 diabetes that is often overlooked. A Brazilian study published in Nutrients found that omega-3 fatty acids from fish oil reduced glucose intolerance and weakened insulin resistance in rats that were not obese but showed a diabetes-like metabolic condition.

The work was funded by FAPESP and focused on Goto-Kakizaki rats, a well established animal model used to study non-obese type 2 diabetes. Type 2 diabetes is marked by high blood sugar that occurs when insulin, the hormone that helps move glucose from the blood into cells, does not work effectively. Omega-3 supplements, including fish oil, are often used by people with cardiovascular disease and type 2 diabetes. However, scientists still know much less about how these fatty acids affect insulin resistance when obesity is not involved. That question matters because obesity is one of the strongest risk factors for type 2 diabetes, but it is not the whole story. An estimated 10% to 20% of people with type 2 diabetes worldwide are not obese. For these patients, the biological roots of insulin resistance may differ from the better known obesity-linked pathways. In the study, researchers gave the rats fish oil at a dose of 2 grams per kilogram of body weight (equivalent to 540 mg/g of eicosapentaenoic acid, or EPA, and 100 mg/g of docosahexaenoic acid, or DHA) three times weekly for eight weeks. By the end of the experiment, the treated animals showed lower insulin resistance, better blood sugar control, reduced inflammatory markers, and improvements in several lipid measures, including total cholesterol, LDL ("bad cholesterol") and triglycerides.

The results came from preclinical experiments, so they do not prove that fish oil will have the same effects in people. Still, the findings point to inflammation as a powerful target in non-obese diabetes and suggest that omega-3 fatty acids deserve closer study in this group. "Our experiments involved Goto-Kakizaki [GK] rats, an animal model for non-obese type 2 diabetes. We found that insulin resistance can be reduced in these animals by modulating the inflammatory response so as to change the profile of defense cells [lymphocytes] from a pro-inflammatory state to an anti-inflammatory state. This process parallels the response of obese individuals with insulin resistance to omega-3 fatty acid supplementation," said Rui Curi, Director of Butantan Institute's Education Center, Professor of Interdisciplinary Graduate Studies in Health Sciences at Cruzeiro do Sul University (UNICSUL), and coordinator of the study. Lymphocytes are white blood cells that help direct the adaptive immune response. When their behavior changes, the effects can spread through the immune system and influence other cells involved in inflammation.

"In previous studies, we observed alterations in both lymphocytes and macrophages [large white blood cells that often reside in adipose tissue and are part of the innate immune system, engulfing and destroying pathogens] in non-obese rats with insulin resistance. In such cases, these cells produce more pro-inflammatory cytokines, as is central in obese people with diabetes," Curi explained.

"The main aim of the study, therefore, was to find out whether supplementation with fish oil [rich in omega-3] could reverse specific alterations in lymphocytes that had been observed in previous research. Our findings increased our knowledge of the link between inflammation and insulin resistance in non-obese animals, confirming that this is a key factor in diabetes even in the absence of obesity," said Renata Gorjão, last author of the article, and Co-Director of UNICSUL's Program of Graduate Studies in Health Sciences. The Nutrients study, conducted during the PhD candidacy of Tiago Bertola Lobato, was part of a broader FAPESP-supported project exploring how insulin resistance develops in non-obese animals.

Curi noted that obesity is a major diabetes risk factor, but not the only one. In people who develop diabetes without obesity, one leading hypothesis is that genetic factors may play an important role. In another study published in Cells, Curi, Gorjão, and colleagues investigated whether delayed intestinal transit might also contribute to insulin resistance in non-obese individuals. "Most obese people have chronic low-level inflammation, which is known to affect the insulin signaling pathways. Adipose tissue, which is augmented in obesity, releases pro-inflammatory cytokines that affect the insulin signaling pathways, promoting insulin resistance. In the non-obese model, this impactful characteristic of adipose tissue is absent, but systemic inflammation is present," Curi said. The group had previously shown systemic inflammation in non-obese GK rats with insulin resistance in a study published in the International Journal of Molecular Sciences.

Another paper from the same project reported that anti-inflammatory defenses appear to break down early in non-obese GK rats with insulin resistance. Lymph nodes (part of the immune system) from newly weaned 21-day-old GK pups already showed reduced markers of regulatory T-cells (Tregs, cells with anti-inflammatory characteristics).

Ozempic and similar weight-loss drugs linked to 30% lower breast cancer risk

Popular medications such as Ozempic, Wegovy, Mounjaro, and Zepbound may offer an unexpected benefit beyond helping people lose weight and manage diabetes. New research involving more than 110,000 women found that those taking GLP-1 drugs, a category that includes semaglutide-based medications like Ozempic and Wegovy, were significantly less likely to develop breast cancer.

The findings were presented at the 2026 American Society of Clinical Oncology (ASCO) Annual Meeting and published in JCO Oncology Practice. Researchers reported that women using GLP-1 medications had roughly a 30% lower likelihood of developing breast cancer compared with women who were not taking the drugs.

"While our study was observational and does not definitively confirm an association between GLP-1 medications and reduced breast cancer incidence, it does add to the growing body of evidence suggesting that it's worth investigating these weight-loss drugs as potential cancer prevention tools," said Elizabeth McDonald, MD, PhD, a professor of Radiology at the University of Pennsylvania Perelman School of Medicine and a practicing breast radiologist at Penn's Abramson Cancer Center.

GLP-1 medications mimic a naturally occurring hormone called glucagon-like peptide-1, which helps regulate appetite and blood sugar levels. The class includes semaglutide drugs such as Ozempic and Wegovy, as well as tirzepatide medications including Mounjaro and Zepbound. Although originally developed to treat type 2 diabetes, these drugs have become some of the most widely used weight-loss medications in the United States.

In recent years, several observational studies have suggested that GLP-1 drugs may be associated with lower risks for certain cancers or improved outcomes among cancer survivors. However, researchers stress that observational studies alone cannot prove cause and effect. Large prospective clinical trials are still needed to determine whether the medications directly reduce cancer risk.

To answer that question, McDonald and her colleagues are working to launch a multisite clinical trial examining whether GLP-1 medications can lower breast cancer incidence in women considered high risk, including some with a previous history of breast cancer.

"GLP-1 medications are intriguing from a cancer research perspective because they weren't designed for cancer therapy, but they do affect many different targets and pathways associated with cancer development, so we're eager to study them in this context," McDonald said.

The research team reviewed electronic health records from 111,646 women between the ages of 45 and 80 who had a body mass index (BMI) of 25 or higher and underwent breast imaging within the Penn Medicine health system between January 2022 and June 2025.

Among those women, 15,264 (13.7 percent) had documented prescriptions for GLP-1 medications, while 96,382 (86.3 percent) had no documented exposure to the drugs.

Researchers evaluated new breast cancer diagnoses in two separate groups. The first included the entire population of 111,646 women. The second was a matched cohort of 30,528 women, pairing each GLP-1 user with a nonuser who shared similar characteristics, including age, race, ethnicity, BMI, breast density, and diabetes status. This approach was designed to reduce bias and account for potential confounding factors.

The results were consistent in both analyses. In the full study population, women taking GLP-1 medications had 35.1 percent lower odds of developing breast cancer. In the matched analysis, they had 30.5 percent lower odds.

The researchers noted several limitations. The study did not distinguish between specific medications such as Ozempic, Wegovy, Mounjaro, or Zepbound. It also did not account for treatment duration, genetic risk factors, cancer stage, or tumor subtype. Additional analyses are planned to examine some of these variables.

Scientists have long recognized that maintaining a healthy weight is an important part of breast cancer prevention. Excess weight, particularly after menopause, is a well-established risk factor for the disease.

Because GLP-1 medications are highly effective at promoting weight loss, some of the observed benefit may be related to weight reduction. However, researchers suspect other biological mechanisms could also be involved.

Chronic low-grade inflammation has long been considered a possible contributor to breast cancer development. GLP-1 drugs are known to reduce inflammation through several pathways. They also influence metabolism and can affect epigenetic processes that help regulate gene activity. Researchers currently believe these combined effects may help suppress the development of breast cancer.

This common amino acid helped mice survive deadly inflammation

A minor injury, a serious infection, or even the flu can send the body down very different paths. Some people recover quickly, while others become severely ill or die. Scientists call this path a disease trajectory, and it can be shaped by many factors, including age, sex, health history, and biology.

At the Salk Institute, Janelle Ayres, PhD, has spent years studying why people respond so differently to illness and injury. Her work focuses on how the body can be guided away from disease and death and toward recovery and survival.

Inflammation is often a major force behind the body's decline during infections and injuries. It is essential for protection because it alerts the immune system and brings immune cells to where they are needed. But when inflammation becomes excessive, it can damage tissues and contribute to death.

Because infections can trigger especially harmful inflammation, the Salk team studied mice with an infection. They found that adding the amino acid methionine to the animals' diet protected them from wasting, blood-brain barrier problems, and death linked to inflammation.

The benefit came through an unexpected route. Methionine improved kidney filtration, showing that the kidneys may play a larger role than previously recognized in helping the body move from infection toward recovery.

The findings, published in Cell Metabolism, suggest that small changes in nutrition can strongly influence disease outcomes. Methionine supplementation may have potential for inflammatory conditions, kidney disease, kidney failure, and patients receiving dialysis, although more research is needed.

"Our study indicates that small biological differences, including dietary factors, can have large effects on disease outcomes," says senior author Ayres, professor and holder of the Salk Institute Legacy Chair at Salk, as well as a Hughes Medical Institute Investigator. "Our discovery of a kidney-driven mechanism that limits inflammation, together with the protective effects of methionine supplementation in mice, points toward the potential of nutrition as a mechanistically informed medical intervention that can direct and optimize the paths people take in response to insults that cause disease."

Inflammation is the immune system's reaction to a threat. That threat could be a pathogen inside the body or something as simple as a splinter. Immune cells move toward the problem and help drive healing.

As those immune cells arrive, they increase the body's alarm signals through proteins known as pro-inflammatory cytokines.

The body must keep inflammation in a careful balance. Too little inflammation may fail to control a threat, while too much can harm healthy tissue. Much of the research in this area has focused on how immune responses are turned on or off.

Ayres's team is examining a different question. Instead of focusing only on immune switches, they are studying how the body adjusts the strength of inflammation by controlling the release and buildup of pro-inflammatory cytokines.

"Pro-inflammatory cytokines are ultimately what leads to sickness and death in a lot of cases," says first author Katia Troha, PhD, a postdoctoral researcher in Ayres's lab. "The immune system has to balance inflammation to attack the invader without harming healthy cells in the body. Our job is to find the mechanisms it uses to do that, so that we can target them to improve patient outcomes."

To investigate how the body manages cytokine levels, the researchers used a mouse model of systemic inflammation caused by the pathogen Yersinia pseudotuberculosis.

One of the first changes they observed was reduced eating in infected mice, which suggested that the animals' metabolism had shifted. To better understand their nutritional state, the researchers measured amino acids circulating in the blood. Amino acids are the building blocks of proteins and support healthy cell function throughout the body.

The infected mice had low levels of methionine, an essential amino acid that people normally get through food. Troha then gave another group of mice chow supplemented with methionine. Unexpectedly, these mice were protected from the infection.

Additional experiments revealed that methionine lowered cytokine levels in the blood by working through the kidneys. It increased the kidneys' filtration capacity, improved blood flow, and helped the body remove pro-inflammatory cytokines in urine.

Importantly, this process cleared extra cytokines without interfering with other important parts of the immune response.

The team also tested whether methionine had similar effects in other conditions. In models of sepsis and kidney injury, methionine again protected mice, suggesting that it could be relevant for other inflammatory disease settings.

When Salk scientists added methionine to the diets of infected mice, the animals followed a very different disease trajectory. Their kidney function improved, and they were protected from wasting, blood-brain barrier dysfunction, and death. At the same time, they remained able to

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Scientists sound the alarm as dangerous amoebas spread globally

Environmental and public health researchers are warning that a little-known group of microbes could become a much bigger threat to human health. These organisms, known as free living amoebae, are found in water and soil, but scientists say some species are becoming increasingly concerning as the world warms and water systems age. In a perspective published in the scientific journal Biocontaminant, researchers describe free living amoebae as an overlooked public health risk that needs far more attention. They point to climate change, aging water infrastructure, and weak monitoring systems as factors that could allow dangerous amoebae to spread and become harder to control.

Amoebae are single celled organisms that commonly live in natural environments such as lakes, rivers, soil, and water systems. Most do not harm humans, but a small number can cause severe disease. One of the best-known examples is Naegleria fowleri, sometimes called the brain eating amoeba. This organism can cause a rare but extremely deadly brain infection when contaminated water enters the nose, often during swimming or other recreational water activities.

"What makes these organisms particularly dangerous is their ability to survive conditions that kill many other microbes," said corresponding author Longfei Shu of Sun Yat sen University. "They can tolerate high temperatures, strong disinfectants like chlorine, and even live inside water distribution systems that people assume are safe."

The danger does not come only from the amoebae themselves. The researchers also warn that amoebae can act as living shelters for other harmful microbes. Bacteria and viruses can hide inside amoebae, where they may be shielded from disinfectants and other treatment methods. This allows some pathogens to persist longer in drinking water systems and potentially spread more effectively. Scientists refer to this as a Trojan horse effect, and the researchers say it may also play a role in the spread of antibiotic resistance.

Rising global temperatures could make the problem worse. Heat loving amoebae may be able to survive and spread in regions where they were once uncommon, increasing the chance of human exposure.

The biggest collagen study yet reveals what actually works

Collagen supplements have become one of the most popular products in the wellness industry, promoted for everything from younger-looking skin to stronger joints and better athletic performance. Now, the largest review of research conducted so far suggests that some of those claims are backed by evidence, while others are not.

Published in the Aesthetic Surgery Journal Open Forum, the new study combined findings from 16 systematic reviews, 113 randomized controlled trials, and nearly 8,000 participants from around the world. Researchers found that collagen supplementation can provide measurable benefits for skin health and osteoarthritis symptoms, but offers little help when it comes to boosting sports performance.

The research was led by scientists at Anglia Ruskin University (ARU), who carried out what they describe as the first integrated meta-analysis and meta-regression spanning all major health areas linked to collagen supplementation.

By examining such a large body of evidence together, the team was able to identify patterns related to both dosage and duration of use. The analysis showed that people who took collagen for longer periods tended to experience greater improvements in skin hydration and elasticity. Longer supplementation was also associated with reduced pain and stiffness among people with osteoarthritis.

In addition to its effects on skin and joint health, collagen supplementation was linked to modest improvements in muscle mass, muscle structure, and tendon structure. According to the researchers, these findings provide additional support for collagen's potential role in healthy aging.

The results suggest that collagen may help maintain certain aspects of musculoskeletal health over time, although the benefits were generally moderate rather than dramatic.

Despite widespread marketing claims aimed at athletes and fitness enthusiasts, the review found little evidence that collagen improves exercise performance or recovery.

Researchers found no meaningful benefits for post-exercise muscle recovery, muscle soreness, or the mechanical properties of tendons. As a result, the authors caution against viewing collagen as a quick solution for enhancing athletic performance. The team also reviewed studies examining collagen's effects on oral health and cardiometabolic measures such as cholesterol, blood pressure, and blood sugar levels. In these areas, the evidence was less convincing. Results were either mixed or inconclusive, and there was limited strong evidence showing that collagen significantly improves metabolic health, gum disease, or cosmetic outcomes in dentistry.