HAWAI'I JOURNAL WATCH

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Highlights of recent research from the University of Hawai'i and the Hawai'i State Department of Health

Preventing Calcification in the Body

Calcification of soft tissues occurs in diseases such as atherosclerosis, diabetes, and kidney failure. New findings from proof-of-concept studies show a molecular mechanism that regulates calcification. Senior author Olivier Le Saux PhD, with the John A. Burns School of Medicine, and colleagues investigated a transmembrane protein called ABCC6, which transports ATP out of cells where it is converted to pyrophosphate, a major calcification inhibitor. They found that supplementing ABCC6-deficient mice with pyrophosphate via injections, drinking water, or food effectively prevented calcification. This could point to ways to avert abnormal calcification occurring in human disorders. The findings were published in several scientific journals (https://bit.ly/2H23aC4, https://bit.ly/2rGhgP2, https://bit.ly/2QynUkE).

How Humor Helps Foster Families

Many foster parents discontinue fostering within one year, but a new study finds that humor can be used as a protective factor to addressing the challenges of fostering. Francie Julien-Chinn PhD, with the Myron B. Thompson School of Social Work, co-authored a study that included interviewing 20 foster families in one state who had been licensed for at least five years and were rated as having healthy family functioning on a standardized assessment. Results indicated that the families used humor to find relief in difficult circumstances and to maintain their authority when they felt challenged. Understanding how foster parents use humor can help case workers to better serve foster families, the researchers concluded in their study (https://bit.ly/2EDAJse), published in the Journal of Public Child Welfare.

Suicide Prevention Efforts for Native Hawaiian Youth

Native Hawaiian teens and young adults are at increased risk of dying from suicide. To better reach these youth, suicide prevention efforts must be culturally guided, according to a paper from lead author Deborah Goebert, DrPH, with the John A. Burns School of Medicine and UH Public Health. For example, Native Hawaiian sayings can be used to frame a program. Youth can be taught cultural values to help them resolve conflicts such as Ho'ohuli, which means to curl like a breaking wave and shift one's thinking, or Ho'ololi, which means to transform one's thoughts or behaviors. The concepts of community and relationship to the environment can be applied to teaching coping skills. Broad cultural integration can help individuals develop the tools to become healthy and resilient, according to the paper (https://bit.ly/2S9tZWj), published in Psychological Services.

Improving Mammograms

A promising approach to reducing the number of women who undergo a breast biopsy after a mammogram, but then turn out not to have breast cancer, is to utilize computer diagnostics to refine mammogram results. In a new study, researchers including senior author John Shepherd PhD, of the UH Cancer Center, conducted high-level mammograms on 109 US women. They found that using radiomics, which means analyzing a mass by extracting a large number of image features from the mammogram data, along with three-compartment breast imaging, which means conducting a pixel-by-pixel analysis to estimate the water, lipid, and protein content of each pixel, would lead to fewer unnecessary biopsies. However, the techniques need further refinement, as they may also erroneously eliminate needed biopsies, the researchers said in their paper (https://bit.ly/2rBYKre), published in Radiology.

Salmonella in Hawai'i Wastewater

Researchers including Pamela O'Brien, of the Hawai'i State Department of Health, analyzed water samples that had previously been collected from the Sand Island Wastewater Treatment Plant over the course of a year. A technique called pulsed-field gel electrophoresis was used to compare the samples to biological samples that had been collected at health clinics on O'ahu during the same period. Nine strains, including one outbreak-associated strain and numerous clinically rare strains, were concurrently detected in the samples from the clinics and the samples of wastewater. This supports the feasibility of using wastewater in surveillance for disease, the researchers wrote in their paper (https://bit.ly/2PMSF4D) published in the journal Environmental Science and Technology.

Complementary and Alternative Medicine Use Among Filipinos in the United States

Among Filipino adults in the United States, the most commonly used complementary and alternative medicine (CAM) therapy is taking multivitamin supplements, with 66% percent reporting ever using these supplements, according to a recent paper from researchers led by Rhea Faye Felicilda-Reynaldo EdD, RN, of the School of Nursing and Dental Medicine. The researchers analyzed data from the 2012 National Health Interview Survey to explore the patterns of CAM use of US Filipinos. Results also showed that 22% ever used herbal/nonvitamin supplements, and 16% used chiropractic manipulation. The top reasons given for using CAM therapies were that they are natural (16.3%) and have a mind-body approach (14.7%). More research is needed on this population's high use of supplements, according to the paper (https://bit.ly/2S7icYh) published in the Asian/Pacific Island Nursing Journal.