Monday Morning

RMRC, Bhubaneswar

(Laxmi Narayan Memorial Library)

Weekly Current Awareness Service

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LIBRARIES ALLOW CHILDREN TO ASK QUESTIONS ABOUT THE WORLD AND FIND THE ANSWERS. AND THE WONDERFUL THING IS THAT ONCE A CHILD LEARNS TO USE A LIBRARY, THE DOORS TO LEARNING ARE ALWAYS OPEN. - LAURA BUSH

About Monday Morning

Monday morning is a weekly E- CAS (Electronic Current Awareness Service) of RMRC Library, Bhubaneswar which carries one Biomedical & health science news item and some useful current medical research links so that the scientists can access the articles. This E- Bulletin starts its journey from 21st Nov. 2016. In this maiden attempt we cordially invite your inputs and suggestions to improve in future.

Dr. Banamber Sahoo, Lib & Inf. Officer
Satyajit Nayak & Twinkle Rout (Lib. Trainee)

UP IN SMOKE

Air pollution damages kids' DNA

US study finds correlation between vehicle-exhaust component & telomere shortening

LOS ANGELES: Children and teenagers exposed to high levels of traffic-related air pollution may be at an increased risk of a specific DNA damage called telomere shortening.

Young people with asthma also have evidence of telomere shortening, a type of DNA damage typically associated with ageing, researchers said.

"Our results suggest that telomere length may have potential for use as a biomarker of DNA damage due to environmental exposures and/or chronic inflammation," said John R Balmes of University of California, Berkeley.

The study included 14 children and adolescents living in Fresno, California, which also happens to be the second-most polluted city in the US.

Researchers assessed the relationship between polycyclic aromatic hydrocarbons (PAHs), a "ubiquitous" air pollutant caused by motor vehicle exhaust and shortening of telomeres.

As the exposure to PAHs saw an increase, telomere length witnessed a decrease in linear fashion. Children and teens who had asthma were exposed to higher PAH levels than those without asthma.

The relationship between PAH level and telomere shortening remained significant after adjustment for asthma and other factors (age, sex, race, and ethnicity) that are related to telomere length.

The study, published in the *Journal of Occupational and Environmental Medicine*, adds to previous evidence that air pollution causes oxidative stress, which can damage lipids, proteins and DNA.

Research has suggested that children may have different telomere shortening regulation as compared to adults, which might make them even more vulnerable to the damaging effects of air pollution.

"Greater knowledge of the impact of air pollution at the molecular level is necessary to design effective interventions and policies," Balmes said.

With further research, telomeres could provide a new biomarker to reflect the cellular-level effects of exposure to air pollution, researchers said.

Telomeres might also provide new insights into the understanding how pollution exposure leads to adverse health outcomes, they said.

Gene-ticking

Telomeres are a region of repetitive nucleotide sequences at the end of each chromosome. They shorten as the human body undergoes the process of ageing.

http://epaper.newindianexpress.com/c/19335393

1. The most dangerous germs in the hospital may be those you bring with you.

Hospitals may look squeaky clean, but microbiologists know better. *Staphylococcus aureus* sits on the doctor's pager, *Corynebacterium striatum* lives on the sink faucet, and *Enterococcus faecalis* hangs out on the bedrail—all threatening the health of patients. But a new paper suggests that the most dangerous bacteria aren't the ones you encounter in the hospital, but those you bring in yourself. For more details click on the below link.

http://www.sciencemag.org/news/2017/05/most-dangerous-germs-hospital-may-be-those-you-bring-you

2. Tissue-independent cancer drug gets fast-track approval from US regulator.

The US Food and Drug Administration (FDA) has issued its first approval of a cancer drug that targets tumours with specific mutations, regardless of where in the body the tumour first took root. For more details click on the below link.

http://www.nature.com/news/tissue-independent-cancer-drug-gets-fast-track-approval-from-us-regulator-1.22054

3. Penn State DNA ladders: Inexpensive molecular rulers for DNA research.

New, license-free DNA ladders will allow researchers to estimate the size of fragments of DNA for a fraction of the cost of currently available methods. A research team of undergraduate students led by Penn State Professor of Biochemistry and Molecular Biology Song Tan and former undergraduate student Ryan C. Henrici developed two plasmids -- a circular form of DNA -- that can be cut by DNA scissors known as restriction enzymes to create the DNA ladders. The ladders can be used to estimate the size of DNA fragments between about 50 and 5,000 base pairs in length. A paper describing the research appears online May 26, 2017 in the journal *Scientific Reports*. For more details click on the below link.

https://www.eurekalert.org/pub_releases/2017-05/ps-psd052417.php

4. WHO Weekly epidemiological record.

Virologic monitoring of poliovirus type 2 after OPV2 withdrawal in April 2016: an important advance in eradicating poliomyelitis and eliminating live oral poliovirus vaccines worldwide, 2016–2017. For more deatails click on the below link.

http://apps.who.int/iris/bitstream/10665/255555/1/WER9221.pdf?ua=1

E- CAS (Current Awareness Service)

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