



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Tuesday 20190531

World's smallest baby

World's smallest baby survives after 5 months in neonatal ICU (The Hindu: 20190531)

<https://www.thehindu.com/news/international/worlds-smallest-baby-survives-after-5-months-in-neonatal-icu/article27353357.ece>

Doctors had said the girl, of the size of a large apple at birth, would die in an hour

A California hospital on Wednesday disclosed the birth of the world's smallest baby ever to survive, weighing a mere 245 grams — the same as a large apple — when she was born.

The girl, nicknamed Saybie by hospital staff, was born 23 weeks and three days into her mother's pregnancy at Sharp Mary Birch Hospital for Women and Newborns in San Diego, California.

The father was told by doctors that he would have about an hour with his daughter before she passed away.

“But that hour turned into two hours which turned into a day, which turned into a week,” the mother said in a video released by the hospital.

Doctors said Saybie was delivered via emergency caesarean section in December at 23 weeks and three days gestation in the womb after severe pregnancy complications that put her mother's life at risk. A typical pregnancy lasts 40 weeks.

After nearly five months at the hospital's neonatal intensive care unit, Saybie was discharged home earlier this month weighing a healthy 2.2 kg and sporting a graduation cap.

“She is a miracle, that's for sure,” said Kim Norby, one of the nurses who cared for Saybie as she fought to survive — with a sign by her crib that read “tiny but mighty” cheering her on.

Miracle baby

Emma Wiest, another nurse featured in the video, said Saybie was so small at birth that “you could barely see her on the bed.”

Doctors said that apart from Saybie's fighting spirit, her survival as a micro preemie — a baby born before 28 weeks' gestation — could be attributed to the fact that she suffered no serious complications after birth.

Saybie's ranking as the world's tiniest baby ever to survive is according to the Tiniest Babies Registry, maintained by the University of Iowa.

Future health

Microbes in body could help predict future health ((The Hindu: 20190531)

<https://www.thehindu.com/sci-tech/health/microbes-in-body-could-help-predict-future-health/article27355256.ece>

Repeated tests may help those at risk

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.

A hot field

Microbiomes start forming at birth and are different depending on whether babies were born vaginally or via C-section. And they change with age and different exposures, such as a course of antibiotics that can wipe out friendly bacteria along with infection-causing ones.

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.

Tobacco

Accelerate actions to slash tobacco use across South-East Asian Region: WHO (The Tribune: 20190531)

<https://www.tribuneindia.com/news/health/accelerate-actions-to-slash-tobacco-use-across-south-east-asian-region-who/780623.html>

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 Khetrapal 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.

Singh lauded the member states for taking actions in recent years to lift tobacco's burden saying ten of them are Parties to the WHO Framework Convention on Tobacco Control (WHO FCTC).

Each one of them is striving to reduce relative tobacco use by 30 per cent by 2025, in line with WHO's non-communicable disease action plan, she said.

Almost all have mandated that graphic warnings be displayed on tobacco products, while the push for plain packaging is gathering pace, with Thailand implementing the policy last year – the first country in Asia to do so, she pointed out.

Highlighting several areas which demand targeted focus, including by the accelerated roll-out of key evidence-based policy interventions, Singh said preventing youth from initiating tobacco use is first among them.

"A powerful means to make this happen is by developing youth-focused anti-tobacco messaging campaigns, with research showing that even generic campaigns slash the likelihood of a young person becoming an established smoker by more than 50 per cent," she said.

Increasing the cost of tobacco products is another proven way to reduce youth demand, with young people two-to-three times more likely to quit or smoke less as a result of price hikes than other demographics, she said.

Protecting people from exposure to tobacco smoke in the workplace and public spaces is similarly important, especially for lung health – the focus of this year's World No Tobacco Day.

"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

Energy drinks

Energy drinks may harm your heart: Study (The Tribune: 20190531)

<https://www.tribuneindia.com/news/health/energy-drinks-may-harm-your-heart-study/780592.html>

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.

In participants who consumed either type of energy drink, researchers found that the QT interval was six milliseconds or 7.7 milliseconds higher at four hours compared to placebo drinkers.

The QT interval is a measurement of the time it takes ventricles in the heart (the lower chambers) to prepare to generate a beat again.

If this time interval is either too short or too long, it can cause the heart to beat abnormally. The resulting arrhythmia can be life-threatening.

The results of the study confirm previous findings and suggest that the QT interval changes are generally sustained over the four-hour monitoring period rather than being a short-lasting effect after consuming 32-ounces of an energy drink.

Researchers also found a statistically significant increase in systolic and diastolic blood pressure in participants who consumed the energy drinks.

"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.

"Energy drinks are readily accessible and commonly consumed by a large number of teens and young adults, including college students. Understanding how these drinks affect the heart is extremely important," said Kate O'Dell, a professor at the University of the Pacific.

"The public should be aware of the impact of energy drinks on their body especially if they have other underlying health conditions," Shah said.

"Healthcare professionals should advise certain patient populations, for example, people with underlying congenital or acquired long QT syndrome or high blood pressure, to limit or monitor their consumption," he said. PTI

Heart attack

Armed conflict linked with heart attack, stroke risk among civilians: Study (The Tribune: 20190531)

<https://www.tribuneindia.com/news/health/armed-conflict-linked-with-heart-attack-stroke-risk-among-civilians-study/780084.html>

Living in a war zone is associated with an increased risk of heart attack and stroke among civilians, even years after the conflict ends, according to a study.

Published in the journal *Heart*, the study analysed data from a number of studies on associations between armed conflict and the health of civilian adults in low- and middle-income countries—including Syria, Lebanon, Bosnia, Croatia, Palestine, Colombia and Sudan.

The researchers at Imperial College London and the London School of Hygiene & Tropical Medicine in the UK found that conflicts were associated with a litany of negative health outcomes for civilians.

These included increased risk of coronary heart disease, stroke, diabetes, increased blood pressure and cholesterol, as well as increased alcohol and tobacco use, they said.

Beyond the immediate impacts of conflict, such as blast injuries, infectious diseases or malnutrition, the researchers cite longer-lasting health risks for civilians which may be due to multiple factors, including disruptions to healthcare services, putting them at greater risk of heart disease in the medium to long term.

The findings could help inform international health policy in the prevention of heart disease in politically unstable countries where conflict is taking place, or likely to occur, researchers said.

The researchers offer recommendations, including prioritising primary healthcare during and after conflicts and training healthcare professionals to focus on both the cheapest and effective ways to prevent heart disease.

These include prescribing generic medicines instead of branded ones and helping people to quit smoking, researchers said.

This is the first review of its kind to examine the links between armed conflict and the risk of heart disease among civilians," said Mohammed Jawad, from Imperial College.

"Because of the nature of war, data is often scarce and patchy, but our study shows evidence of a link between armed conflicts and increased deaths from heart disease and stroke," Jawad said.

The team carried out a literature search, trawling science publication libraries to look at a total of 65 studies incorporating 23 armed conflicts.

The studies included in the review focused on cardiovascular disease and its risk factors.

In one example, researchers included studies looking at the causes of death before and after the 2003 US-led invasion of Iraq.

Data collected from household surveys showed the rate of deaths from heart attack or stroke increased significantly, from 147.9 per 100,000 people before the invasion to 228.8 per 100,000 post-invasion.

In a similar study, heart disease was the principal cause of about half of non-violent deaths during the US-led invasion of Iraq, researchers said.

The review was unable to identify clear mechanisms underlying the findings, but these are likely to be complex and numerous.

According to the researchers armed conflict could potentially impact chronic health conditions through two main mechanisms.

Firstly, the direct effects of living in a conflict zone itself can increase stress and anxiety, leading to higher blood pressure, as well as worsening risk behaviours such as drinking more alcohol and smoking more.

Second, the destruction of healthcare systems can eliminate screening programmes, reduce patient access to working hospitals and healthcare staff, reduce the availability of medicines and make taking regular medications—such as statins or insulin—a lower priority for people facing conflict.

"The experience of armed conflict, be it specific traumatic events or displacement from your home, appears to place civilian populations at greater risk of increased blood pressure, alcohol use and smoking, which are established risk factors for heart disease," said Christopher Millett, a professor at Imperial College.

"Even if civilians are willing and able to seek healthcare services during armed conflict, access is often limited due to hospital closures, road blockades, lack of available medications, and more," Millet said.

The researchers found evidence that conflict is associated with increased coronary heart disease, cerebrovascular disease (stroke) and endocrine disease (such as diabetes).

There was also evidence of increased alcohol and tobacco consumption, during and after conflict. — PTI

Music

Music from Indian snake charmer's flute may boost preemies' brain development (The Tribune: 20190531)

<https://www.tribuneindia.com/news/health/music-from-indian-snake-charmer-s-flute-may-boost-preemies-brain-development/780074.html>

As the hearing system is functional early on, music appeared to be a good candidate, researchers said. iStock

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.

"Brain immaturity, combined with a disturbing sensory environment, explains why neural networks do not develop normally," Huppi said.

The researchers hypothesised that since the neural deficits of premature babies are due, at least in part, to unexpected and stressful stimuli as well as to a lack of stimuli adapted to their condition, their environment should be enriched by introducing pleasant and structuring stimuli.

As the hearing system is functional early on, music appeared to be a good candidate, researchers said.

"Luckily, we met the composer Andreas Vollenweider, who had already conducted musical projects with fragile populations and who showed great interest in creating music suitable for premature children," said Huppi.

"We wanted to structure the day with pleasant stimuli at appropriate times: a music to accompany their awakening, a music to accompany their falling asleep, and a music to interact during the awakening phases," said Lara Lordier, a researcher at the HUG and UNIGE, unfolds the musical creation process.

To choose instruments suitable for these very young patients, Andreas Vollenweider played many kinds of instruments to the babies, in the presence of a nurse specialised in developmental support care.

"The instrument that generated the most reactions was the Indian snake charmers' flute (the punji)," said Lordier.

"Very agitated children calmed down almost instantly, their attention was drawn to the music," she said.

The composer thus wrote three sound environments of eight minutes each, with punji, harp and bells pieces.

The study was conducted with a group of premature infants who listened to the music, a control group of premature infants, and a control group of full-term newborns.

Researchers wanted to assess whether the brain development of premature infants who had listened to the music would be more similar to that of full-term babies.

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.

"The most affected network is the salience network which detects information and evaluates its relevance at a specific time, and then makes the link with the other brain networks that must act," said Lordier.

"This network is essential, both for learning and performing cognitive tasks as well as in social relationships or emotional management," she said.

The first children enrolled in the project are now 6 years old, at which age cognitive problems begin to be detectable.

Scientists will now meet again their young patients to conduct a full cognitive and socio-emotional assessment and observe whether the positive outcomes measured in their first weeks of life have been sustained. PTI

Genetic mutations

AI detects new class of genetic mutations behind autism (The Tribune: 20190531

<https://www.tribuneindia.com/news/health/ai-detects-new-class-of-genetic-mutations-behind-autism/779521.html>

Using Artificial Intelligence (AI), researchers have discovered new genetic flaws that contribute to autism in people.

Most previous research on the genetic basis of disease has focused on the 20,000 known genes and the surrounding sections of DNA that regulate those genes.

However, even this enormous amount of genetic information makes up only slightly more than one per cent of the 3.2 billion chemical pairs in the human genome.

The other 99 per cent has conventionally been thought of as "dark" or "junk," although recent research has begun to disrupt that idea.

In their new finding, detailed in the journal *Nature Genetics*, the research team offers a method to make sense of this vast array of genomic data.

The system uses an AI technique called deep learning in which an algorithm performs successive layers of analysis to learn about patterns that would otherwise be impossible to discern.

The algorithm teaches itself how to identify biologically relevant sections of DNA and predicts whether those snippets play a role in any of more than 2,000 protein interactions that are known to affect the regulation of genes.

"This method provides a framework for doing this analysis with any disease," said Olga Troyanskaya, Professor at Princeton University in the US.

The approach could be particularly helpful for neurological disorders, cancer, heart disease and many other conditions that have eluded efforts to identify genetic causes.

In the case of autism, the researchers analysed the genomes of 1,790 families with "simplex" autism spectrum disorder, meaning the condition is apparent in one child but not in other members of the family.

The method sorted among 120,000 mutations to find those that affect the behaviour of genes in people with autism.

Among this sample, fewer than 30 per cent of the people affected by autism spectrum disorder had a previously identified genetic cause.

The newly found mutations are likely to significantly increase that fraction, the researchers said. — IANS

E-cigarette

E-cigarette use may increase heart disease risk: Study (The Tribune: 20190531)

The flavouring liquid used in electronic cigarettes may increase the risk of cardiovascular disease when inhaled, a Stanford study warns.

Scientists investigated the effect of the e-liquids on cells called endothelial cells that line the interior of blood vessels.

The study, published in the *Journal of the American College of Cardiology*, found that endothelial cells exposed to the e-liquids - or to blood collected from e-cigarette users shortly after vaping - are less viable and exhibit significantly increased levels of molecules implicated in DNA damage and cell death.

The cells are also less able to form new vascular tubes and to migrate and participate in wound healing.

The severity of the damage, aspects of which occur even in the absence of nicotine, varies among popular flavours, the researchers said. Cinnamon and menthol were found to be particularly harmful.

"Until now, we had no data about how these e-liquids affect human endothelial cells," said Joseph Wu, director of the Stanford University in the US.

"This study clearly shows that e-cigarettes are not a safe alternative to traditional cigarettes," Wu said.

"When we exposed the cells to six different flavours of e-liquid with varying levels of nicotine, we saw significant damage. The cells were less viable in culture, and they began to exhibit multiple symptoms of dysfunction," he added.

The researchers studied human endothelial cells generated in the laboratory from what are called induced pluripotent stem cells, or iPS cells.

Human iPS cells can become many different cell types, and they provide an ideal way for researchers to closely study cells that would be difficult to isolate directly from a patient.

Endothelial cells line the interior surface of blood vessels and play a critical role in heart and cardiovascular health.

"We found the e-liquids caused changes in the endothelial cells that are closely related to those seen during the development of cardiovascular disease," said Won Hee Lee, a postdoctoral scholar at Stanford.

The researchers investigated the effect of six different popular e-liquid flavours -- fruit, tobacco, sweet tobacco with caramel and vanilla, sweet butterscotch, cinnamon, and menthol - - with nicotine levels of 0, 6, and 18 milligrams per millilitre on endothelial cells derived from human iPS cells.

They found that while several of the liquids were moderately toxic to the endothelial cells, the cinnamon and menthol flavoured e-liquids significantly decreased the viability of the cells in culture even in the absence of nicotine.

Exposure to the e-liquids also increased the relative levels of reactive oxygen species - molecules that can cause DNA damage - and the levels of molecules associated with programmed cell death.

The researchers also found that exposure to the cinnamon and menthol flavoured e-liquids significantly disrupted the ability of the cultured cells to form capillary-like tubular structures associated with the growth of new blood vessels.

The e-liquid flavoured with caramel and vanilla also disrupted growth, but not as severely.

The cells exposed to cinnamon flavour and caramel and vanilla flavours exhibited an increased uptake of low-density lipoproteins and lipids - processes commonly associated with inflammation and endothelial dysfunction - and a reduction in their ability to migrate to heal wounds or scratches.

Some of the effects of exposure to the various e-liquids were dependent on the nicotine concentration, but others, like cellular migration and decreases in cell viability, were independent of nicotine, suggesting a combined effect of nicotine concentrations and flavouring components.

Sleeping

Less than 7 hours of sleep bad for your heart (The Tribune: 20190531)

While half of the participants slept seven to 8.5 hours nightly, the other half slept five to 6.8 hours every night.

<https://www.tribuneindia.com/news/health/less-than-7-hours-of-sleep-bad-for-your-heart/779065.html>

People who sleep less than seven hours each night are at higher risk of developing cardiovascular disease (CVD) and coronary heart disease, warn researchers.

The findings, published in the journal *Experimental Physiology*, show that people who sleep fewer than seven hours per night have lower blood levels of three physiological regulators, or microRNAs, which influence gene expression and play a key role in maintaining vascular health.

“This study proposes a new potential mechanism through which sleep influences heart health and overall physiology,” said Christopher DeSouza, Professor at University of Colorado in the US.

For the study, the research team took blood samples from a small group of healthy men and women, age 44 to 62, who had filled out questionnaires about their sleep habits.

While half of the participants slept seven to 8.5 hours nightly, the other half slept five to 6.8 hours every night.

The research team measured the expression of nine microRNAs previously associated with inflammation, immune function or vascular health.

They found that people with insufficient sleep had 40 to 60 per cent lower circulating levels of miR-125A, miR-126, and miR-146a than those who slept enough.

“Why seven or eight hours seems to be the magic number is unclear. However, it is plausible that people need at least seven hours of sleep per night to maintain levels of important physiological regulators, such as microRNAs,” DeSouza added.

“They are like cellular brakes, so if beneficial microRNAs are lacking that can have a big impact on the health of the cell,” DeSouza said.

The results suggest that microRNAs in blood could be used as a marker of cardiovascular disease in people with insufficient sleep. — IANS

High BP

Lower pesticides linked to high BP in kids (The Tribune: 20190531)

<https://www.tribuneindia.com/news/health/flower-pesticides-linked-to-high-bp-in-kids/778141.html>

Suarez said there is some evidence that insecticides, such as organophosphates, can increase blood pressure. iStock

LOS ANGELES: 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.

Commercial rose production relies on the use of insecticides, fungicides and other pest controls, but little is known about their human health effects.

“These findings are noteworthy in that this is the first study to describe that pesticide spray seasons not only can increase the exposure to pesticides of children living near agriculture, but can increase their blood pressures and overall risk for hypertension,” said Jose R Suarez, an assistant professor at UC San Diego.

The team assessed 313 boys and girls, ages four to nine, residing in floricultural communities in Ecuador. The children were examined up to 100 days after the Mother’s Day harvest.

“We observed that children examined sooner after the Mother’s Day harvest had higher pesticide exposures and higher systolic and diastolic blood pressures compared to children examined later,” said Suarez.

“In addition, children who were examined within 81 days after the harvest were three times more likely to have hypertension than children examined between 91 and 100 days,” he said.

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. PTI

Pregnancy

Don't eat too much potato chips during pregnancy (The Tribune: 20190531)

<https://www.tribuneindia.com/news/health/don-t-eat-too-much-potato-chips-during-pregnancy/778203.html>

Women should avoid eating too much vegetable oil and potato chips during pregnancy as such a diet may result in an increased risk of pregnancy complications and poor development of the babies, warns a study.

Foods such as potato chips and vegetable oil contain omega 6 fats, particularly linoleic acid, and the research suggests that overconsumption of this nutrient can promote inflammation and may be associated with an increased risk of heart disease.

"It is important for pregnant women to consider their diet, and our research is yet another example that potentially consuming too much of a certain type of nutrient can have a negative impact on the growing baby," said study lead author Deanne Skelly, Professor at Griffith University in Australia.

The finding, published in The Journal of Physiology, found that eating a diet with three times the recommended daily intake of linoleic acid might be harmful in pregnancy.

For the study, the researchers picked rats for the experiment and they found three changes in rat mothers who ate a high linoleic acid diet: their liver had altered concentrations of inflammatory proteins, their circulating concentrations of a protein that can cause contraction of the uterus during pregnancy were increased, and a hormone that can regulate growth and development was decreased.

If the effects of high linoleic acid are the same in rats and humans, this would suggest that women of child-bearing age should consider reducing the amount of linoleic acid in their diet.

During the study, the research team fed rats for 10 weeks on a diet with high linoleic acid, mated them and then investigated the effects of the diet on their pregnancy and developing babies.

Rats typically give birth to multiple babies in each pregnancy. Rat mothers who ate a high linoleic acid diet had a reduced number of male babies, said the study.

It is important to note that when humans eat a diet rich in linoleic acid, the diet also tends to be high in fat, sugar, and salt.

However, in the study, the only change in the diet was higher linoleic acid, but no changes in fat, sugar or salt. — IANS

Depression

Pregnancy linked to depression: Study (The Tribune: 20190531)

<https://www.tribuneindia.com/news/health/pregnancy-linked-to-depression-study/778568.html>

Women go through several physical and emotional changes during pregnancy and their negative attitude towards body changes during this time can lead to depression after childbirth, suggests a new study.

In the study, published in Psychological Assessment journal, the researchers discovered that pregnant women's feelings about their changing bodies could help predict how well the mother might bond with her unborn baby and her emotional well-being after childbirth.

"Women are under constant pressure about their appearance during pregnancy and after birth," said Catherine Preston, a psychology expert in body image at University of York, England.

"It is important therefore that pregnancy care is not just about the physical health of the mother and the health of the unborn child, but also about women's emotional well-being, which can give us a lot of important information about how they might react to being a new mum in the longer-term." For the study, the researchers included over 600 pregnant women who were asked about their satisfaction with appearing pregnant, weight gain concerns, and the physical burdens of pregnancy.

The study's findings showed that women who felt more positively about their body changes during pregnancy were more likely to have better relationships with their partners; lower depression and anxiety scores; and were better at interpreting their bodily signals. They also showed a more positive attachment to their unborn child.

Whereas, women who had negative feelings about their appearance during pregnancy needed additional emotional support during pregnancy and also required monitoring after birth for signs of postnatal depression.

"There is growing evidence that women's experience of their body during pregnancy can have a positive or negative impact on both maternal and infant well-being, so more should be done within our care systems to protect women against the more negative effects," suggested Preston. — IANS

Cognitive behavior therapy (New Kerala: 20190531)

<https://www.newkerala.com/news/read/150276/cognitive-behavior-therapy-can-help-to-treat-menopause-symptoms.html>

Cognitive behavior therapy can help to treat menopause symptoms

According to recent findings, cognitive behaviour therapy can help in treating multiple menopause symptoms.

Although hormone therapy (HT) is the most commonly recommended treatment for menopause symptoms, research is ongoing for alternatives, especially nonpharmacologic options.

Cognitive behaviour therapy has previously been proposed as a low-risk treatment for hot flashes, but a new study suggests it may also effectively manage other menopause symptoms.

Results are published in the journal of The North American Menopause Society (NAMS).

When it comes to the treatment of common menopause symptoms such as hot flashes, depression, sleep disturbances, and sexual function, women today have more options than ever before.

Because of its proven effectiveness, HT still leads a long list of available treatment options. However, controversies regarding the adverse effects of HT have prompted some women to seek other options.

Alternative treatments such as antidepressants have proven effective in treating menopause-related depression and, to a lesser extent, hot flashes. But these options can also have adverse effects.

Cognitive behaviour therapy is a type of psychotherapy that teaches patients how to modify dysfunctional emotions, behaviours, and thoughts and to develop personal coping strategies. It has proven effective in multiple studies in the treatment of various mental health difficulties such as depression and anxiety. Previous studies relative to menopause symptoms, however, have focused only on its ability to manage hot flashes.

This new study is the first of its kind to address a broad range of common physical and psychological menopause symptoms.

The study demonstrated that cognitive behaviour therapy significantly improved hot flashes, depression, sleep disturbances, and sexual concerns, although little improvement was seen in anxiety.

Moreover, the improvements were maintained for at least 3 months post-treatment. Although a small study, it lays the foundation for future research focused on how various psychological treatments may help the millions of women who suffer from menopause symptoms.

Stress

Stress during pregnancy affects reproductive function in male offspring: Study (New Kerala: 20190531)

<https://www.newkerala.com/news/read/150275/stress-during-pregnancy-affects-reproductive-function-in-male-offspring-study.html>

Stress during early pregnancy is linked to reduced reproductive function in male offspring, a recent study suggests.

The findings suggest that men, whose mothers were exposed to stressful life during the first 18 weeks of pregnancy, may have reduced sperm counts when they become adults.

The research suggested that the initial months of pregnancy is when male reproductive organs are at their most vulnerable stage of development.

As part of the study, the researchers studied 643 young men aged 20 and found that those who were exposed to at least one stressful life event inside their mother's womb during early gestation (0-18 weeks) had worse sperm quality and lower testosterone concentrations than those who were not exposed, or who were exposed during later gestation, between 18-34 weeks.

The findings come from Western Australia's Raine Study, a multi-generational study that recruited nearly 3000 women in their 18th week of pregnancy in the period between May 1989 and November 1991. The mothers completed questionnaires at 18 and 34 weeks' gestation, and each survey included questions about stressful life events during the preceding four months of pregnancy. These events included the death of a close relative or friend, separation or divorce or marital problems, problems with children, mother's or partner's involuntary job loss, money problems, pregnancy concerns, moving home or other problems.

A total of 2868 children (1454 boys) were born to 2804 mothers and were followed by the researchers, making this the first study to investigate prospectively the links between exposure to stressful life events in early and late gestation and male reproductive function in young adult men. When they reached 20, up to 643 young men underwent a testicular ultrasound examination and provided semen and blood samples for analysis.

The researchers found that 63 per cent of the men had been exposed to at least one stressful life event in early gestation, while fewer stressful life events occurred in late gestation. Those who were exposed to stressful life events in early gestation had lower total sperm counts, fewer sperms that could swim well and lower concentrations of testosterone than those exposed to no events.

The researchers adjusted their analyses to take into account factors that could affect their calculations, such as the mothers' body mass index, socioeconomic status and whether or not the mothers had given birth previously.

The team of researchers found that men who had been exposed to three or more stressful life events during early gestation had an average of 36 per cent reduction in the number of sperm in their ejaculate, a 12 per cent reduction in sperm motility and a 11 per cent reduction in testosterone levels compared to those men who were not exposed to any stressful life event during that period.

According to the researchers, this suggests that maternal exposure to stressful life events during early pregnancy, a vulnerable period for the development of male reproductive organs, may have important life-long adverse effects on men's fertility. This contrasts with the absence of any significant effect of exposure to maternal stressful life events in late gestation.

"These potential associations could provide important insight into the decline of total sperm count in Western men, which has been, apart from genetic and direct spermatogenic damage, largely unexplained," said authors of the study published in the Journal of Human Reproduction.

Cardiovascular diseases

US admits multiple molecular formulations effective in cardiovascular diseases: Industry (New Kerala: 20190531)

<https://www.newkerala.com/news/read/150064/us-admits-multiple-molecular-formulations-effective-in-cardiovascular-diseases-industry.html>

The Indian pharmaceutical industry has been successful in engineering multiple molecular formulations for cardiovascular and diabetic treatment, which the US and other advanced countries had initially opposed.

"When the Indian companies came out with multiple molecule formulations, the US and other advanced countries had vehemently opposed it but now they have started realizing and accepting the benefits of it," Vijay Shah, the chairman of the mega exhibition of the Pharmaceutical Export Promotion Council of India.

The seventh edition of this flagship exhibition of the Council, which showcases the best of Indian pharma capability to global buyers, will be held at the Mahatma Gandhi exhibition ground in the state capital Gandhinagar from June 10 to June 12.

The union commerce ministry is sponsoring the event, providing for the travel and accommodation expenses of all the 738 buyers from across 130 countries, while the Gujarat government has provided the exhibition venue at subsidized rates.

"Gujarat is the hub of pharmaceutical industry in India, with a share of about 30 per cent of the total exports. Recognizing this, we are holding this event for the first time in the state. This year, our focus is on the Medium and Small Enterprises (SMEs)," Shah said.

The export promotion council's Executive Director Raghuveen Kini said, "We will help the SMEs in resolving issues and hindrances faced by them in exporting their products abroad and participation in global pharma events."

"We are also sending delegations to Australia, New Zealand, China, Latin American countries like Mexico and Peru as well as CIS countries, including Russia, Belarus, Uzbekistan, Kazakhstan and Armenia," Kini added.

The Indian pharma industry is hoping for 15 per cent growth in exports over the previous years, Kini said. India is the third largest pharma exporter in the world and its export business is valued at over 19 billion US dollars.

"We have 19.13 billion US dollar business with a growth of around 11 per cent in the year 2018-19. This fiscal we have set a target of 15 per cent exports growth," Shah said.

Severe air pollution

Severe air pollution can cause severe birth defects, say researchers (New Kerala: 20190531)

<https://www.newkerala.com/news/read/149921/severe-air-pollution-can-cause-severe-birth-defects-say-researchers.html>

Researchers have determined that severe air pollution can lead to birth defects and even fatalities during pregnancy.

During winters in China and India, where severe haze events frequently occur, fine particulate matter levels are especially high, several hundred micrograms per cubic meter, the team of researchers asserted.

Even in the United States, about one-third of the population still lives under poor air quality conditions, according to a report released by the U. S. Environmental Protection Agency in 2018.

Using female rats, the team of researchers examined the adverse health effects of exposure to fine particulate matter consisting of ammonium sulfate commonly found in many locations around the world. Large fractions of this substance were detected not only in Asia but also in Houston (51 percent) and Los Angeles (31 percent).

"People typically believe that ammonium sulfate may not be terribly toxic, but our results show large impacts on female pregnant rats. It is unclear yet what is causing these profound effects, but we speculate that the size of nanoparticles or even the acidity may be the culprit," said Renyi Zhang, Texas A and M Distinguished Professor of Atmospheric Sciences and one of the leading authors.

"It is unclear yet what is causing these profound effects, but we speculate that the size of nanoparticles or even the acidity may be the culprit," Zhang added.

According to Zhang, sulfate is mainly produced from burning coal, which is one of the major energy sources in both developed and developing countries.

Findings of the study were published in the Proceedings of the National Academy of Sciences.

"However, our results show that prenatal exposure to air pollution may not dispose offspring to obesity in adulthood. Nutrition and lifestyle are likely major factors contributing to the current obesity epidemic worldwide," said Guoyao Wu, one of the researchers.

Previous studies have shown that air pollution is a serious public health threat throughout the world, with millions of people breathing air that falls far below the standards set by the World Health Organization.

The studies also show that air pollution can impair metabolic and immune systems in animal offspring, but the recent study shows definitive proof of decreased fetal survival rates, and also shortened gestation rates. This can result in lesser body weight, and damage in brains, heart and other organs.

"While epidemiological studies have been widely adopted to assess the health effects of air pollution, these tend to yield little insight into adverse outcomes and long-term effects," Zhang asserted.

Abortion (The Asian Age: 20190531)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=13100157>

Louisiana too bans abortion

State bill says no abortions once foetal heartbeat is detected

Washington: Louisiana lawmakers on Wednesday passed a bill banning abortions once a foetal heartbeat is detected, joining a string of other US states restricting the termination of pregnancies as early as six weeks.

The bans are expected to be blocked in lower courts, but supporters plan to appeal such decisions until they reach the Supreme Court.

They hope this will lead to the long-sought conservative goal of overturning the landmark 1973 ruling known as *Roe v Wade*, which recognized women's right to abortion.

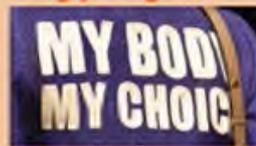
The measure — which includes exceptions for cases in which a woman's life is at risk or the foetus has a fatal condition — passed the Louisiana House of Representatives with a vote of 79-23 after being approved in the Senate by 31-5, according to the legislature's website.

It now goes to the desk of the governor, who said he plans to endorse it. "As I prepare to sign this bill, I call on the overwhelming bipartisan majority of legislators who voted for it to join me in continuing to build a better Louisiana that cares for the least among us and provides more opportunity for everyone," Governor John

Gucci makes abortion rights statement, flashes 'My Body, My Choice' on ramp

Milan: Gucci creative director Alessandro Michele has made a clear abortion rights message in his latest Cruise collection, as the debate over abortion heats up once again in the United States.

The collection, shown to a VIP crowd Tuesday evening in Rome's Capitoline Museum, featured a purple jacket with the slogan "My Body, My Choice" on the back, and a sweater emblazoned with the date "May 22, 1978," marking the day that



abortion became legal in Italy. A belted gown was embroidered with a flowering uterus.

Michele said new restrictions on abortion in the United States "made me consider how much women should be highly respected."

"Sometimes in life choices are difficult, but I believe that it is the

most difficult decision for a woman. I respect that decision. I respect that decision as I respect the idea that the uterus is a garden," Michele told reporters after the show.

"I wanted to portray the idea that to interrupt a pregnancy does not wipe out the garden, the flower; that is the uterus of every woman," he said. He chose Capitoline Museums overlooking Roman Forum as the backdrop for the 2020 Gucci Cruise collection.

— AFP

Edwards said in a statement posted on Twitter.

Planned Parenthood, which offers abortion services, said Louisiana "is part of an alarming and widely-opposed national trend of bans criminalizing abortion before many women even know they're pregnant, threatening women with investigation, and promising to throw doctors in prison for doing their jobs." "Banning abortion will not stop abortion — but it will end access to safe, legal abortion care,"

Leana Wen, the president of the Planned Parenthood Action Fund, said in a statement.

"These politicians in 2019 are deliberately putting women's lives at risk. This is not about medicine or science, but power over women's bodies," she said.

Several other conservative southern US states have passed similar measures in recent weeks, including Alabama, whose anti-abortion law is the strictest in the country. It amounts to a near-total ban on ending a pregnan-

cy, even in cases of rape and incest. Performing an abortion would be a crime that could land doctors in prison for 10 to 99 years.

Like the Louisiana measure, the Alabama bill includes exceptions if the life of the mother is in danger or the foetus has a fatal condition.

The new abortion restrictions sparked widespread protests by activists last week, with demonstrators turning out in cities including Washington, New York and Los Angeles. — AFP

Multiple sclerosis clinic

Multiple sclerosis clinic at AIIMS from next month (The Indian Express: 20190531)

<https://indianexpress.com/article/cities/delhi/multiple-sclerosis-clinic-at-aiims-from-next-month-5757423/>

MS is a condition that can affect the brain and spinal cord, causing a wide range of potential symptoms, including problems with vision, arm or leg movement, sensation or balance.

Medical student suicide: 'Implement Thorat committee advice on probing cases,' say students' body in appeal to CM

AIIMS-Delhi Junior Resident recruitment 2019: Apply for junior residents posts

AIIMS sets conditions for event on Ambedkar, caste; doctors say arbitrary, illegal

Multiple sclerosis clinic at AIIMS from next month

Speaking on World MS Day, Dr M V Padma Srivastava, chief of neurology at AIIMS, said the disease can strike suddenly.

The first cases of multiple sclerosis (MS) were diagnosed in India in the 1960s. On June 4, the first MS clinic will be opened at AIIMS, in the pursuit of better diagnoses and treatment for the 2 lakh people living with the disease.

MS is a condition that can affect the brain and spinal cord, causing a wide range of potential symptoms, including problems with vision, arm or leg movement, sensation or balance.

It can lead to complications such as fatigue, loss of bladder control, cognitive changes and vision loss. Without treatment, permanent deterioration of the nerves causes communication between the brain and body to cease.

"So anytime that myelin sheath gets interrupted or it gets damaged at a place, that transfer of information does not happen," said Dr Rohit Bhatia, department of neurology, AIIMS.

"Suppose it affects your optic nerve, what you're seeing... gets interrupted so you perceive it as blindness," he said.

At AIIMS, doctors are planning to provide treatment in the new clinic not just through prescriptions, but through comprehensive support systems where doctors can spend more time with patients. As MS diagnoses continue to rise, their main goal is to provide a space for understanding that patients need more innovative forms of care.

The cause of MS is unknown, though it is generally believed to be a combination of genetic, immunological and environmental factors. Because it often takes many years for someone to be diagnosed, it has so far been impossible to determine a specific cause or trigger.

Dr M V Padma Srivastava, chief of neurology at AIIMS, explained that the disease can strike suddenly over a few days through fatigue or imbalance, and then symptoms will go away, only to return in a few weeks. It is this slow up and down effect that leads to later diagnoses and harsher prognoses of the disease. "If you diagnose MS early and treat it early, you can have a functional outcome; you can be normal and live well with it," she said.

With the disease harming young people, especially young women, in the prime of their lives, doctors said the hope is to use the clinic as a means to diagnose earlier, allowing for treatments to then work better.