



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Wednesday 20190227

Health sector

Health sector gets ₹7,485 crore as share to boost facilities (The Hindu: 20190227)

<https://www.thehindu.com/news/cities/Delhi/health-sector-gets-7485-crore-as-share-to-boost-facilities/article26380234.ece>

₹588 crore sanctioned for building and re-modelling of hospitals

The Delhi government on Tuesday allocated ₹7,485 crore for the health sector in its 2019-20 budget with Rs 588 crore being proposed for construction of new hospitals and re-modelling of existing ones. This includes revenue budget of ₹6,462 crore and capital budget of ₹1,023 crore.

An amount of ₹3,737 crore is earmarked for implementation of various schemes, programmes and projects under the health sector. This is an up from an outlay of ₹6729 crore in 2018-19 which included ₹3259 crore earmarked for implementation of various schemes, programmes and projects under the sector.

Deputy CM Manish Sisodia presented the budget and noted that the proposed outlay of ₹3,737 crore in 2019-20 for various projects is 45.07% higher than the revised estimate of ₹2,576 crore in 2018-19.

Action on defaulters

Mr. Sisodia added that the Drugs Control Department has adopted a “zero-tolerance” approach towards pharmaceutical drug abuse and taken stringent action against defaulters. “The department has cancelled or suspended 386 drug licenses of manufacturing units and sales premises till December 2018, who were found violating norms,” he said.

The government noted that 189 Aam Aadmi Mohalla Clinics have been set up and 333 more such clinics will be set up by the end of June 2019. “Our target is to set up 1,000 mohalla clinics. Similarly, 25 polyclinics are in operation and 94 more dispensaries are being re-modelled to start polyclinics to provide specialised healthcare to citizens. An outlay of ₹375 crore is proposed for mohalla clinics and polyclinics in the current budget,” Mr. Sisodia said.

Enhancing bed strength

“To enhance the total bed strength from 10,000 beds to 20,000 in hospitals, the work on construction of a 600-bed hospital at Ambedkar Nagar and an 800-bed hospital at Burari, will be completed shortly. The construction of a 1,241-bed hospital at Dwarka is at an advance stage,” according to the budget.

Projects for re-modelling of existing hospitals - RTRM Hospital, Acharya Shree Bhikshu Hospital, Deep Chand Bandhu Hospital, Bhagwan Mahavir Hospital, Sanjay Gandhi Hospital, Dr Baba Sahib Ambedkar Hospital and Guru Govind Singh Hospital, and other facilities, at a cost of ₹963 crore have been sanctioned, Mr. Sisodia pointed out.

The Deputy CM observed that good samaritans who help road traffic accident victims to reach hospitals for medical care are given a financial incentive of ₹2,000 along with a certificate of appreciation. He said an outlay of ₹2 crore is proposed for this scheme in 2019-20.

Under the scheme of conducting high-end radiology test -- MRI, CT Scan and ultrasound -- at private centres, an outlay of ₹49 crore is proposed in 2019-20, the budget said.



Food-borne diseases

Study: Food-borne diseases cost India \$15 billion a year (The Times of India: (The Hindu: 20190227)

<https://timesofindia.indiatimes.com/india/study-food-borne-diseases-cost-india-15-billion-a-year/articleshow/68176718.cms>

Unsafe food still costs India as high as \$15 billion annually, even though it has almost halved from \$28 billion estimated last year, a recent World Bank report says underlining the "unnecessarily high" economic burden caused by food borne diseases.

India along with China accounts for 49% of the total economic burden due to food borne diseases (FBDs) in low and middle income countries and for 71% of the total burden in Asia. However, China alone accounts for over \$30 billion of the total burden, double as compared to

India, the report shows. Animal source foods estimated to account for 21% of India's food borne diseases burden, whereas it accounts for 59% in China. The report, title 'The Safe Food Imperative', was discussed recently during the first international food safety conference organised by the World Health Organisation.

Acknowledging India's efforts in last few years to streamline food safety regulations, the report said India, along with few other countries, has demonstrated that better health and commercial outcomes are possible with the joint involvement of public agencies, businesses, and consumers in food safety.

Of late, Food Safety and Standards Authority of India (FSSAI) has taken a series of measures including stringent packaging and labelling norms, regulation of restaurant and street food as well as inspections and sampling of food products to ensure quality of food in India.

Globally, Asia and sub-Saharan Africa have the highest incidence of FBDs, along with the highest rate of deaths due to FBDs and the greatest loss of disability adjusted life years (DALYs). LMICs in south Asia, south-east Asia, and sub-Saharan Africa are estimated to account for 53% of all illnesses due to FBD, 75% of deaths, and 72 % of DALYs related to FBDs.

Dineout GIRF 2019 is live: Get Flat 50% Off at 6000+ restaurants

Right to hygiene

Whisper no more (The Indian Express: (The Hindu: 20190227)

<https://indianexpress.com/article/opinion/oscars-2019-period-end-of-sentence-5602187/>

It is not often that women from the global south get a voice on as big a platform as the Academy Awards, especially if they hail from impoverished, rural backgrounds as do the protagonists.

A documentary on a group of Indian women fighting patriarchy for the right to hygiene and dignity, has just won an Oscar and, rightfully, the nation is rejoicing. It is not often that women from the global south get a voice on as big a platform as the Academy Awards, especially if they hail from impoverished, rural backgrounds as do the protagonists of *Period. End of Sentence*. But this win is being celebrated in large part because it has thrust onto the global stage a conversation that was — and continues to be in large parts of South Asia — a whispered one.

Because that's what you have to contend with when you grow up female in South Asia: The belief that menstruation is not a normal biological function. It is a shameful secret, wrapped in a newspaper and slid discreetly across the counter by the chemist. It is an abomination that offends the gods and pollutes the kitchen, and it makes women weak and inferior to men. This is the belief that has denied women, especially in rural India, access to sanitary products, forcing them to make do with cloth rags, sand and sawdust, imperilling their health and damaging their dignity.

The Oscar win couldn't come at a better time. In the last year alone, the conversation about menstruation has become louder and more public. There was the film Pad Man which sought to normalise period discourse. The Sabarimala controversy, too, centred squarely on the rights of menstruating women, has made clearer than ever before how many women — and men — find menstrual taboos restrictive, discriminatory and plain tedious. With Period... now grabbing the baton, the race towards the end of such beliefs and practices can only get quicker. There must be no more whispering — only loud, impassioned arguing for equal rights to health and dignity.

Delhi's air quality

Delhi's air quality improves after rain (Hindustan Times: 20190227)

<http://paper.hindustantimes.com/epaper/viewer.aspx>

Delhi's air quality Tuesday drastically improved after rainfall washed away the pollutants and brought down the pollution level, authorities said.

Delhi received 2.4mm rain in the last 24 hours.

According to Central Pollution Control Board (CPCB) data, the overall air quality index (AQI) in the city was 119, which falls in the 'moderate' category. An AQI between 100 and 200 comes under the moderate category, 201 and 300 is considered 'poor', 301 and 400 'very poor', while an AQI between 401 and 500 is 'severe'. On Monday, the air quality was recorded in the poor category.

Meanwhile, Faridabad, Ghaziabad, Gurugram and Greater Noida recorded 'moderate' air quality, the CPCB said.

The overall PM 2.5 levels in Delhi was 61, while the PM10 level was 106, the Centre-run SAFAR said. "The AQI is predicted to remain in moderate to poor category in the next three days," it said.

The IMD said Delhi received 2.4 mm rains in the last 24 hours.

Mohalla clinics

More hospital beds, mohalla clinics, but no new schemes (Hindustan Times: 20190227)

<http://paper.hindustantimes.com/epaper/viewer.aspx>

No new schemes were announced in the healthcare sector by the Delhi government in its budget 2019-20. In his budget speech, the deputy chief minister Manish Sisodia announced the main

allocations in the sector for increasing the number of mohalla clinics and the bed strength in the Delhi government hospitals.

HT FILE

n According to the Economic Survey of Delhi, about 94 patients visit each mohalla clinic every day.

The government allocated ₹375 crores for setting up new mohalla clinics and multi-speciality polyclinics.

“By June, the government will set up 33 more mohalla clinics. More than 40 lakh people received free treatment, medicines and diagnostics till December 2018 in the 189 mohalla clinics that are running. The government allocates ₹375 crores for setting up more mohalla clinics and creating more polyclinics in under utilised dispensaries,” said Sisodia.

Last year, the government had allocated ₹403 crores for setting up 836 new mohalla clinics and 94 new polyclinics. Only 25 new mohalla clinics and one polyclinic was established in the year.

The total outlay for the healthcare sector in this budget is ₹7,485 crores, of which ₹3,737 crores were allocated for implementing various schemes and programmes.

“This is 45.07% of the revised estimates of ₹2,576 in the health sector in 2018-19,” said Sisodia.

The deputy CM also allocated ₹588 crores for establishing three new hospitals and remodelling of eight existing hospitals. The three hospitals in Burari, Ambedkar Nagar and Dwarka will add 2,609 beds to the existing 11,353 beds in Delhi government hospitals.

The remodelled hospitals will add 2,601 beds.

“The work on doubling the bed strength in Delhi government hospitals to 20,000 is on going,” said Sisodia while presenting the budget.

Last year, the government had allocated ₹450 for the same.

An outlay of ₹300 crores was made for the annual purchase of medicines that are provided free at Delhi government hospitals and clinics.

The AAP government also started a scheme to provide 13 radiodiagnosis tests at private centres. For this, the government allocated ₹49 crores.

In last year’s budget, the government had allocated ₹20 crores for the same.

Last year, the government had also laid out ₹100 crores for a universal health insurance scheme for the Delhi residents. However, the scheme was left off at the planning stage. No mention of the scheme was made by the deputy chief minister during his budget speech.

Stem cell (Hindustan Times: 20190227)

<http://paper.hindustantimes.com/epaper/viewer.aspx>

Stem cell registry to help fight blood disorders

NEWDELHI: The government is setting up a National Stem Cell Registry to create an India-specific bone-marrow donor database for treatment of life-threatening blood disorders such as blood cancer, thalassaemia, sickle-cell anaemia and haemophilia.

n The registry will contain an India-specific bone-marrow donor database to help treat life-threatening blood disorders.

Creating a pool of donors will help people who do not have blood-related donors find an unrelated match for life-saving treatment.

The Union health ministry's move to have a national, government managed database will specifically help poor patients as they largely are unable to afford treatment. "All the approvals are in place; we are ready to start the registry anytime," said a health ministry official on condition of anonymity. The ministry plans to link five India-based registries to the national database.

The registry will not bank stem cells but only take buccal swab samples — swabs from the inside of the cheek — for human leukocyte antigen (HLA) analysis, by which a person's DNA will be derived in order to find the closest match to perform a bone marrow transplant. The data will be maintained through a noninvasive process and people will not have to donate.

People, especially children, with blood disorders such as thalassemia, sickle cell anaemia and haemophilia require frequent blood transfusions. A bone-marrow transplantation is the only cure.

"We have 400,000 Indians registered with us as donors, and have helped perform at least 500 transplants using our donors to date, which is still not enough. It's a good initiative, we have been intimated that they want to work with us," says Raghu Rajagopal, CEO, DATRI, which is one of the largest stem-cell registries in the country, and is among the five that will be integrated with the registry.

Though there is no official India-specific data, 350,000-500,000 people in India suffer from life-threatening blood disorders. About 5-6% of the population are carriers of thalassaemia traits; if two persons with the traits marry, the child is likely to have the disease. "A large number of patients with severe disease don't opt for surgery because they can't bear the treatment cost. If there's no sibling match, using international registries is the only option, which escalates transplantation cost to ~30-35 lakh..." said the official.

"Around 10-20% patients who need bone-marrow transplantation find a donor among the existing private registries," said Dr Anupam Sachdeva, director, Paediatric Bone Marrow Transplant unit, Ganga Ram Hospital.



Drugs (The Asian Age: 20190227)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=12523706>

New set of rules soon on orphan drugs, trials

ARCHAK SENGUPTA | DC
HYDERABAD, FEB. 26

In a bid to quicken the approval process and accessibility of drugs in the country, the Union government plans to introduce a new set of rules in the coming few weeks, according to an official of the Central Drugs Standard Control Organisation (CDSCO).

India, which first issued a set of guidelines for biosimilars back in 2012, will revise the guidelines again to include orphan drugs and reduce the time needed for approval of clinical trials.

"The new rules, which will substitute the existing rules, have several amendments and are expected in a few weeks," Ranga Chandrashekar, Deputy Drugs Controller (India), CDSCO, told reporters at the sidelines of the BioAsia expo here in Hyderabad.

Mr Ranga added, "One of the amendments is in regard to the orphan drugs. Previously, there was no definition of orphan drugs. The new rules will define orphan drugs and create a clear, transparent regulatory pathway for approval of orphan drugs. It will also allow approval of drugs with limited data."

Orphan drugs are medicinal products intended for diagnosis, prevention or treatment of life-threatening or very serious diseases that are rare.

These drugs are called "orphan" because under



normal market conditions the pharmaceutical industry has little interest in developing and marketing such products as these are intended for a small number of patients.

In the United States, any disease that has less than 2.5 lakh patients is classified as orphan. Thanks to India's population, the new rules may set the bar as high as 5 lakh.

Despite orphan drugs being a good business opportunity for Indian companies, they tend to avoid manufacturing them, as it does not make sense for them to run the costly clinical trials for such a small number of patients.

Mr Chandrashekar said companies developing orphan drugs could get partial and full waiver of clinical trials, depending on the drug.

"There will be abridged pathway to approve orphan drugs that reduces the cost and time for the

drug to reach the market at affordable cost," he said.

The new rules, to cut costs, will allow drugs that are already approved in well-regulated regions such as in the US or Europe to improve accessibility. However, Mr Chandrashekar was quick to remind that Indian companies must adhere to the intellectual property rights.

The rules will also cut down on the time period for approval of clinical trials. Mr Chandrashekar said, "The timeline will be fixed in the new rules. If the regulator fails to provide the necessary approval within the fixed period, it will be deemed approved for clinical trials. Currently, it takes about four months for the process. According to the new rules, if the drug is discovered in India, it will be given approval in 45 days. For others, it'll be 90 days." At present, such approval takes 120 days.

Celica Diseases (The Asian Age: 20190227)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=12522176>

HEREDITARY IN NATURE AND CHARACTERISED BY GLUTEN INTOLERANCE, THE ONLY WAY TO MANAGE THIS DISEASE IS TO ENSURE A LIFE-LONG GLUTEN-FREE DIET



EVERYTHING YOU NEED TO KNOW ABOUT CELIAC DISEASE

KANIZA GARARI

THE ASIAN AGE

✓ Celiac disease (gluten-sensitive enteropathy) is an autoimmune disorder in which ingestion of gluten leads to nutrient malabsorption in a person. The inflammation caused due to gluten intake leads to damage in the small intestines and it is very important to completely eliminate grains containing gluten from the diet to ensure that the disease can be treated properly. Celiac disease is found to affect one in 100 people explains Dr Krishna Mohan Y., senior gastroenterologist.



Dr Krishna Mohan Y., senior gastroenterologist

glutaminase).

It is a chronic inflammatory disorder of the small intestine characterised by malabsorption after ingestion of gluten. When individuals suffering from celiac disease eat gluten-rich food their body's immune system reacts and attacks the small intestine. These attacks lead to damage on the villi, small finger-like projections that line the small intestine leading to nutrient malabsorption.

Q What are the incidences of celiac disease in India? In which age group is it largely seen? Is it found more in a particular gender?

About one in 100 people — about one per cent — have celiac disease (CD). CD and latent CD were most prevalent in northern India and the least in southern India. The prevalence correlated with wheat intake. Symptoms of celiac disease

can appear at any age from infancy into senior adulthood. The average age of diagnosis is between the fourth and sixth decades of life, with approximately 20 per cent of cases diagnosed in those who are more than 60 years of age. It is seen more commonly in women.

Q How do patients respond to the treatment? Is it reversible?

CD is a permanent intolerance to dietary gluten. In most patients with CD, a gluten-free diet assures full recovery. Many patients with milder presentation of CD are diagnosed at a relatively advanced stage of the disease. The prompt diagnosis and treatment of CD is associated with symptomatic improvement.

Q What are the long term complications of the disease? Does it require proper management and follow-up?

Long term complications of the disease are malnutrition, bone loss, irritability, depression, bowel cancer,

Foods that contain gluten:

- a) Wheat
- b) Barley
- c) Bulgur
- d) Durum
- e) Farina
- f) Graham flour
- g) Malt
- h) Rye
- i) Semolina
- j) Spelt (a form of wheat)
- k) Triticale

low birth weight infants and dental defects. The treatment requires a life long gluten free diet and that is the only way to manage the disease. Once gluten is removed, inflammation in small intestine reduces and the person starts to feel better. Complete healing and regrowth of the villi in small intestine takes some time, depending on the damage to the intestines.

Q Is follow-up care very important in this disease?

Follow-up care is very important to evaluate the manner in which the patient responds to a gluten-free diet.

Blood tests have to be done to monitor response to a gluten-free diet. In some patients, symptoms tend to recur despite having a gluten-free diet and they require further investigations to rule out cancer and

Hidden gluten is found in:

- a) Modified food starch, preservatives and food
- b) Prescription and over-the-counter medications
- c) Vitamin and mineral supplements
- d) Herbal and nutritional supplements
- e) Lipstick products
- f) Toothpaste and mouthwash
- g) Envelope and stamp

Morning walk

Just 20-minute visit to park can cut stress, make you happy (The Tribune: 20190227)

<https://www.tribuneindia.com/news/health/just-20-minute-visit-to-park-can-cut-stress-make-you-happy/735144.html>

Forget morning walk or jogging, spending just 20 minutes in contact with mother nature can help you cut stress, mental fatigue and boost life satisfaction.

The study, published in International Journal of Environmental Health Research, intended to validate previous findings on the impact of a park visit on emotional well-being, and evaluate the contribution of choosing to participate in physical activity in the park in relation to emotional well-being after the park visit.

The team from the University of Alabama found that spending 20 minutes in a park could make people happier regardless of whether they are engaging in exercise or not during the visit.

Park visitors reported an improvement in emotional well-being. However, the levels of physical activity was not found to be related to the improved emotional well-being.

This means that potentially all people can benefit from time in a park, said Gavin R. Jenkins from the varsity.

"If you cannot be physically active due to ageing, a disability or any other limitations, the study implies a person can still gain health benefits just from a visit to a local park," he added.

A visit to park also led to improvement in life satisfaction by 64 percent, the researchers said.

"There is increasing pressure on green space within urban settings. Planners and developers look to replace green space with residential and commercial property. The challenge facing cities is that there is an increasing evidence about the value of city parks but we continue to see the demise of these spaces," Jenkins noted.

For the study, the team included nearly 100 adult visitors to a local park in urban areas. — IANS

Vitamin C

Vitamin C may lower BP, sugar levels in diabetics (The Tribune: 20190227)

<https://www.tribuneindia.com/news/health/vitamin-c-may-lower-bp-sugar-levels-in-diabetics/734613.html>

Taking vitamin C supplements can help diabetics by lowering elevated blood sugar levels throughout the day, a study has found.

The research, published in the journal Diabetes, Obesity and Metabolism, also found that vitamin C lowered blood pressure in people with type 2 diabetes, suggesting benefits for heart health too.

According to Glenn Wadley from Deakin University in Australia, the results may help millions currently living with the health condition.

“We found that participants had a significant 36 per cent drop in the blood sugar spike after meals. This also meant that they spent almost three hours less per day living in a state of hyperglycaemia,” Wadley said.

“This is extremely positive news as hyperglycaemia is a risk factor for cardiovascular disease in people living with type 2 diabetes,” he said.

“We also found that the proportion of people with hypertension halved after taking the vitamin C capsules, with both their systolic and diastolic blood pressure levels dropping significantly,” Wadley added.

The dose of vitamin C used in the study was about 10 times the normal dietary intake and readily available from most health food stores, researchers said.

“Vitamin C’s antioxidant properties can help counteract the high levels of free radicals found in people with diabetes, and it’s encouraging to see this benefits a number of the disease’s common comorbidities, such as high blood pressure,” he said.

“While physical activity, good nutrition and current diabetes medications are standard care and very important for managing type 2 diabetes, some people can find it tough to manage their blood glucose levels even with medication,” he added. PTI

Sleeping

New parents face up to six years of disrupted sleep (The Tribune: 20190227)

<https://www.tribuneindia.com/news/health/new-parents-face-up-to-six-years-of-disrupted-sleep/735121.html>

Having a baby disrupts sleep quality of the new parents for up to six years after the child's birth, a study has found.

Researchers at the University of Warwick in the UK studied sleep in 4,659 parents who had a child between 2008 and 2015.

During these years parents also reported on their sleep in yearly interviews. In the first three months after birth mothers slept on average one hour less than before pregnancy while fathers sleep duration decreased by approximately 15 minutes, researchers said in statements.

The study shows that after birth of the first child and up to six years after birth mothers and fathers sleep duration and sleep satisfaction do not fully recover to the levels before pregnancy.

“Women tend to experience more sleep disruption than men after the birth of a child reflecting that mothers are still more often in the role of the primary caregiver than fathers,” said Sakari Lemola, from the University of Warwick.

However, when the children were 4-6 years old sleep duration was still about 20 minutes shorter in mothers and 15 minutes shorter in fathers compared to their sleep duration before pregnancy.

A similar time course was also observed for their satisfaction with sleep. Sleep effects were more pronounced in first-time parents compared with experienced parents. In the first half a year after birth the sleep effects were also somewhat stronger in breastfeeding compared with bottle-feeding mothers.

Higher household income and psychosocial factors such as dual vs single parenting did not appear to protect against these changes in sleep after childbirth.

“While having children is a major source of joy for most parents it is possible that increased demands and responsibilities associated with the role as a parent lead to shorter sleep and decreased sleep quality even up to six years after birth of the first child,” said Lemola. PTI

Smoking

Quit smoking to offset arthritis risk: Study (The Tribune: 20190227)

<https://www.tribuneindia.com/news/health/quit-smoking-to-offset-arthritis-risk-study/733702.html>

Smoking has been known to be a major risk factor for various diseases including heart disease and cancer.

Long-term smoking cessation in women was associated with a lower risk of rheumatoid arthritis (RA) compared to those who had recently quit, a new study has shown.

Rheumatoid arthritis is a chronic inflammatory disorder affecting many joints, including those in the hands and feet.

The study showed that the risk of seropositive RA—when patients have antibodies in their blood that help identify the disease—was reduced by 37 per cent for those who sustained smoking cessation for 30 or more years compared with those who recently quit smoking.

"Our study is one of the first to show that a behaviour change of prolonged smoking cessation may actually delay or even prevent the onset of seropositive RA, suggesting lifestyle changes may modify risk for development of a systemic rheumatic disease," said Jeffrey Sparks from the Brigham and Women's Hospital in the US.

Patients who have seropositive RA tend to have a more severe disease course with more joint deformities, disability, and inflammation outside of the joints.

On the other hand, there was no association of smoking with seronegative RA—when patients have no antibodies in their blood that help identify the disease—suggesting a different pathogenesis than seropositive RA, said the study, published in the journal, *Arthritis Care & Research*.

Smoking has been known to be a major risk factor for various diseases including heart disease and cancer.

According to the World Health Organisation, rheumatoid arthritis tends to strike during the most productive years of adulthood, between the ages of 20 and 40 and is more common among women.

Cardiovascular disease

Sufficient sleep cuts cardiovascular disease risk (The Tribune: 20190227)

<https://www.tribuneindia.com/news/health/sufficient-sleep-cuts-cardiovascular-disease-risk/733700.html>

Getting enough sleep can help protect against cardiovascular disease by preventing the buildup of plaques in the arteries, a study has found.

The research published in the journal *Nature*, describes the mechanism by which insufficient sleep increases production of inflammatory white blood cells known to be major contributors to atherosclerosis.

"We have discovered that sleep helps to regulate the production in the bone marrow of inflammatory cells and the health of blood vessels and that, conversely, sleep disruption breaks down control of inflammatory cell production, leading to more inflammation and more heart disease," said Filip Swirski, from Massachusetts General Hospital (MGH) in the US.

"We also have identified how a hormone in the brain known to control wakefulness controls processes in the bone marrow and protects against cardiovascular disease," said Swirski.

To investigate how insufficient sleep increases atherosclerosis, Swirski's team subjected mice genetically programmed to develop atherosclerosis to repeated interruptions of their sleep, similar to the experience of someone constantly waking up because of noise or discomfort.

While there were no changes in weight, cholesterol levels or glucose tolerance in the sleep-deprived mice, compared to animals from the same strain allowed to sleep normally, those subjected to sleep fragmentation developed larger arterial plaques and had higher levels of monocytes and neutrophils— inflammatory cells that contribute to atherosclerosis—in their blood vessels.

Further experiments revealed that the sleep-deprived mice had a nearly two-fold increase in the production in their bone marrow of stem cells that give rise to white blood cells.

A hormone called hypocretin, produced in the brain structure called the hypothalamus and known to have a role in the regulation of sleep, was found to play an unexpected role in controlling white blood cell production.

While normally produced at high levels when animals —including humans—are awake, hypocretin levels were significantly reduced in the sleep-deprived mice.

The team found that hypocretin regulates production of white blood cells through interaction with neutrophil progenitors in the bone marrow.

Neutrophils, they discovered, induce monocyte production through release of a factor called CSF-1, and experiments with mice lacking the gene for hypocretin revealed that the hormone controls CSF-1 expression, monocyte production and the development of arterial plaques.

In sleep-deprived animals, the drop in hypocretin led to increased CSF-1 production by neutrophils, elevated monocyte production and accelerated atherosclerosis.

"This is a direct demonstration that hypocretin is also an important inflammatory mediator," said Swirski.

"We now need to study this pathway in humans, explore additional mechanisms by which proper sleep maintains vascular health and further explore this newly identified neuro-immune axis," he said. — PTI

New MRI sensor

New MRI sensor to peer much deeper into brain (The Tribune: 20190227)

<https://www.tribuneindia.com/news/health/new-mri-sensor-to-peer-much-deeper-into-brain/733695.html>

Over the past several decades, scientists have devised ways to image this activity by labelling calcium with fluorescent molecules. — iStock

MIT scientists have devised a new way to image calcium activity that is based on magnetic resonance imaging (MRI) and allows them to image activity deep within the brain.

Using this technique, they can track signalling processes inside the neurons of living animals, enabling them to link neural activity with specific behaviours.

"This paper describes the first MRI-based detection of intracellular calcium signaling, which is directly analogous to powerful optical approaches used widely in neuroscience but now enables such measurements to be performed in vivo in deep tissue," said Alan Jasanoff, a professor at Massachusetts Institute of Technology (MIT) in the US.

In their resting state, neurons have very low calcium levels. However, when they fire an electrical impulse, calcium floods into the cell, according to the study published in the journal Nature Communications.

Over the past several decades, scientists have devised ways to image this activity by labelling calcium with fluorescent molecules.

This can be done in cells grown in a lab dish, or in the brains of living animals, but this kind of microscopy imaging can only penetrate a few tenths of a millimetre into the tissue, limiting most studies to the surface of the brain.

"There are amazing things being done with these tools, but we wanted something that would allow ourselves and others to look deeper at cellular-level signalling," Jasanoff said.

To achieve that, the MIT team turned to MRI, a noninvasive technique that works by detecting magnetic interactions between an injected contrast agent and water molecules inside cells.

Many scientists have been working on MRI-based calcium sensors, but the major obstacle has been developing a contrast agent that can get inside brain cells.

Last year, Jasanoff's lab developed an MRI sensor that can measure extracellular calcium concentrations, but these were based on nanoparticles that are too large to enter cells.

To create their new intracellular calcium sensors, the researchers used building blocks that can pass through the cell membrane.

The contrast agent contains manganese, a metal that interacts weakly with magnetic fields, bound to an organic compound that can penetrate cell membranes. This complex also contains a calcium-binding arm called a chelator.

Once inside the cell, if calcium levels are low, the calcium chelator binds weakly to the manganese atom, shielding the manganese from MRI detection.

When calcium flows into the cell, the chelator binds to the calcium and releases the manganese, which makes the contrast agent appear brighter in an MRI image.

"When neurons, or other brain cells called glia, become stimulated, they often experience more than tenfold increases in calcium concentration. Our sensor can detect those changes," Jasanoff says. — PTI

Acupuncture

Acupuncture may ease menopausal symptoms (The Tribune: 20190227)

<https://www.tribuneindia.com/news/health/acupuncture-may-ease-menopausal-symptoms/733698.html>

Menopausal symptoms are common, and depending on their severity, can have a major impact on quality of life, health and wellbeing, as well as productivity.

LONDON

A brief course of acupuncture may help ease troublesome menopausal symptoms, such as excess sweating, mood swings, sleep disturbances, a study has found.

According to researchers from University of Copenhagen in Denmark among women dealing with moderate to severe symptoms, acupuncture was also associated with reductions in hot flushes, as well as skin and hair problems.

The research, published in the journal *BMJ Open*, acupuncture offers an alternative for women who cannot, or do not want to, use hormone replacement therapy (HRT).

Menopausal symptoms are common, and depending on their severity, can have a major impact on quality of life, health and wellbeing, as well as productivity.

Hot flushes are one of the most common symptoms, and these can go on for several years. However, others include heavy sweating, emotional vulnerability, sleep disturbances, fatigue, 'fuzzy' brain, joint pain, vaginal dryness and reduced sex drive.

Hormonal and other drugs can treat the various symptoms, but they are not without side effects.

The evidence for other non-pharmacological approaches, such as exercise, relaxation, and herbal or dietary remedies, is not very convincing, researchers said.

Previous research suggests that acupuncture might be helpful, but design flaws or quality issues have undermined the findings.

In a bid to address this, the researchers randomly allocated 70 menopausal women to either five weeks of standardised Western medical acupuncture, using pre-defined acupuncture points, or no acupuncture until after six weeks.

Each weekly session lasted 15 minutes, and was delivered by doctors from nine different general practices, who had additionally trained in acupuncture, and had been practising it for an average of 14 years.

Each participant completed a validated Meno Scores (MSQ) questionnaire-designed to measure outcomes from the patient's perspective-before their first session and then again after 3, 6, 8, 11 and 26 weeks.

The MSQ comprised 11 graded scales for each of: hot flushes; day and night sweats; general sweating; sleep disturbance; emotional vulnerability; memory changes; skin and hair problems; physical symptoms; abdominal symptoms; urinary and vaginal symptoms; and fatigue.

At six weeks most (80 per cent) of the women in the acupuncture group, said that they felt that the sessions had helped them.

Compared with those who had not been given acupuncture, they were significantly less troubled by hot flushes-a difference that was already apparent after three weeks of 'treatment'.

Statistically significant differences also emerged between the two groups in the severity/frequency of day and night sweats, general sweating, sleep disturbances, emotional and physical symptoms, and skin and hair problems.

The drop-out rate was low, with just one woman failing to complete all five acupuncture sessions, and no serious side effects were reported.

The researchers acknowledge that the treatment period lasted just five weeks and that a major difficulty in all acupuncture trials is the lack of a proper comparator.

This means that a placebo effect cannot be ruled out, researchers said, and further discussions are warranted about what level of evidence is acceptable.

The findings show that a brief course of acupuncture by suitably trained professionals is feasible in routine primary care for both doctors and patients. — PTI

Pregnant pause

Recurrent miscarriages can be traumatic for a young expectant mother. These can be prevented with a few precautions (The Tribune: 20190227)

<https://www.tribuneindia.com/news/health/pregnant-pause/733125.html>

Recurrent miscarriage or recurrent pregnancy loss (RPL) is a foetal loss syndrome (also known as foetal wastage syndrome). Characterised by recurrent spontaneous abortion, this is an important reproductive health issue that affects 2 per cent to 5 per cent of couples. Two or more consecutive pregnancy losses before 20 weeks from the last menstrual period can be defined as a miscarriage.

It is a relatively common problem that affects many young women, especially with first-time pregnancies. However, it does not indicate that pregnancy cannot happen again. For couples who experience recurrent pregnancy loss, it can be emotionally traumatic, similar to trauma associated with stillbirth or neonatal death. Many times evaluation of this loss can be frustrating and difficult because the manner of causation condition cannot be determined in about 50 per cent cases. But it is important to remember that most women with RPL have a good chance for a successful pregnancy in future, even when there is no definitive diagnosis and treatment. However, women with a history of RPL, who become pregnant later, may be at higher risk for developing foetal growth restriction and have premature delivery.

What causes a recurrent miscarriage?

Some established causes of a miscarriage include uterine anomalies, antiphospholipid syndrome (an autoimmune disease), hormonal and metabolic disorders and cytogenetic abnormalities. Most miscarriages occur because the foetus is not developing normally and gets terminated by the 12th week of pregnancy.

However, most women who experience some kind of vaginal spotting or bleeding in the first trimester can go on to complete successful pregnancies as well. But precaution is paramount and any woman who experiences vaginal spotting should immediately consult her gynaecologist. Other factors include immunological disorders, bacterial infections in the reproductive tracts, exposure to X-ray radiations, severe kidney or heart disease, hormonal problems, malnutrition and being underweight or overweight.

These days due to lifestyle changes, stress is a major contributor and maternal diseases like uncontrolled diabetes, frequent infections, hormonal problems, uterus or cervix problems and thyroid disease can also impact the pregnancy. Overall risk of miscarriage in the next pregnancy remains about 15 per cent after one miscarriage, but rises to 17 to 31 per cent after two miscarriages and to 25 to 46 per cent after three or more miscarriages.

Many a time an abnormally shaped uterus or incompetent cervix could also lead to a miscarriage. Mothers should avoid consuming high-mercury fish because it can cause several infections. Any kind of processed food, meats, organ meat, raw eggs, raw sprouts and caffeine should be avoided.

Prevention

Over the years, evidence-based treatments such as surgical correction of uterine anomalies or aspirin and heparin for antiphospholipid syndrome have improved outcomes for recurrent pregnancy loss. However, almost half of the cases remain unexplained and are empirically treated using supplementation and immunomodulatory treatments.

However, women should avoid extensive evaluation after just one spontaneous miscarriage after first trimester or early second trimester (up to 20 weeks), given these are relatively common, sporadic events.

A miscarriage is preventable if a woman simply focuses on taking good care of herself and the foetus. Doing some regular, moderate exercise during pregnancy and avoiding junk food ensures healthy weight for the mother and helps in baby's proper growth. A pregnant woman must have regular prenatal care; avoid any stress and known risk factors like smoking and drinking alcohol. A mother's lifestyle, habits and surroundings have a bearing on the foetus growing inside her. A healthy lifestyle can contribute significantly to a healthy pregnancy.

Overcoming the syndrome

Miscarriage can be traumatic for an expectant couple. A couple should support each other or even opt for professional help if it has problems in facing the loss. Psychological and medical support, regular ultrasonography examinations, avoiding heavy work, travel and sexual activity for some time are some other preventive measures.

There are several risk factors that can increase the chances of a miscarriage.

Maternal age: The age of conception is a major factor. The risk of abortion at 25-30 years is around 12 per cent which rises to 25 per cent as a woman crosses 35 and 51 per cent at 40 years or after.

Genetic: If there is frequent or recurrent loss, genetic testing of the couple is generally recommended along with the genetic evaluation of the abortions.

Hormonal imbalance: Overt-thyroid disorder or suspected or subclinical hypothyroidism needs testing and treatment. Patients with diabetes need to control blood sugar prior to conception.

Coagulation defects: Antiphospholipid antibody syndrome is a treatable risk factor for recurrent pregnancy loss which can be evaluated and treated.

Uterine abnormalities are managed surgically if detected in time.

Lifestyle correction: Avoid or quit smoking and alcohol consumption. Decrease intake of caffeine, tea, coffee, etc. Being overweight or obese is a major cause for pregnancy loss.

Low-carb diets

The fibre that binds life (The Tribune: 20190227)

<https://www.tribuneindia.com/news/health/the-fibre-that-binds-life/733124.html>

Low-carb diets are trending nowadays among those who want to maintain a healthy weight. But a diet which is low in carbohydrates cannot be called healthy because carbohydrates besides being a major source of energy for the body also serve many important functions.

A diet low in carbohydrates can be dangerous to for body's gut microbiota. Carbohydrates produce short-chain fatty acids in colon (large intestine) by fermentation of fibre (found in complex carbohydrates) in the intestinal tract. Intestinal microbes are beneficial for human health. These short chain fatty acids are good for colon health as well.

Long periods of not eating complex carbohydrates can damage the gut health because the gut, then, would remain deprived off many good nutrients which we get from good or complex carbohydrates.

Fibre is a key to a healthy body, as beneficial bacteria rely on the carbohydrates for energy by using the fibre which we eat that we get from the diet though carbohydrate sources. If we don't include carbohydrates in the diet, then bad bacteria may impact digestion. The good bacteria that we get from digestion of fibre has many vital functions. These metabolise nutrients and drugs in our body. These bacteria help immune system to prevent infections. These also they help in T-cell (natural immune cells) production. These bacteria also maintain structure of the gastrointestinal tract.

Dietary fibre plays important role in preventing colon cancer. Our diet should have a proper balance of carbohydrates, proteins and fats. Dietary fibre is generally defined as that portion of food that is not digested in the small intestines and passes to the large intestines where it is fermented, fully or partially. It is also called bulk or roughage. It is something that humans cannot digest. We lack the digestive enzyme that is needed to break dietary fibre.

There are two types of fibres — soluble and insoluble.

Soluble fibre: It dissolves in water to form a gel like substance. It gives many health benefits. It reduces blood sugar, blood cholesterol, etc. Oats, peas, carrot, psyllium husk, citrus fruits, apple, barley, etc. are some sources of soluble fibre.

Insoluble fibre: It does not mix with water and passes through the digestive system as it is. It acts as a bulking agent, and helps speed the passage of food and waste through the intestines. It is beneficial for those who struggle with constipation. Wheat bran, whole wheat, legumes, vegetables are sources of insoluble fibre.

Women need 25 gm of fibre per day and men need 38 gm of fibre per day. Carbohydrates, especially complex ones, and the fibre in these is an important part of diet. It is not only beneficial for gut health but overall health as well.

Some ways to include fibre in diet

1. Choose whole grains over refined grains: Whole grains are naturally rich in fibre but processing removes fibre from them like white rice, white bread, etc. Choose brown rice, oats and food made with whole grains.
2. Choose snacks wisely: Most of the time we munch on snacks which are processed and low in fibre. Opt for nuts, popcorns and fruits over biscuits, noodles, etc.
3. Eat a fruit everyday: This is the easiest way to increase fibre in the diet. Eat a fruit in a day it gives you essential vitamin and minerals and provide bulk in the diet.
4. Eat minimum three servings of vegetables: Have at least five servings of vegetables and fruits everyday to give your body adequate fibre. Add vegetables in each meal and eat fruits as a healthy snack.
5. Add beans to your salad: Next time you make salad, add kidney or other beans to salad. It will add fibre and help you to achieve your daily fibre intake.



Garlic, onion

Garlic, onion lower colorectal cancer risk: Study (The Tribune: 20190227)

<https://www.tribuneindia.com/news/health/garlic-onion-lower-colorectal-cancer-risk-study/733059.html>

Consumption of allium vegetables including garlic, onion and leek, is associated with a reduced risk of colorectal cancer, researchers say.

Colorectal cancer is the cancer of the colon or rectum, located at the digestive tract's lower end.

The study, published in the Asia Pacific Journal of Clinical Oncology, showed that the odds of having colorectal cancer was 79 per cent lower in adults who consumed high amounts of allium vegetable compared with those who consumed them in low amounts.

"It is worth noting that in our research, there seems to be a trend: the greater the amount of allium vegetables, the better the protection," said researcher Zhi Li from the First Hospital of China Medical University.

"In general, the present findings shed light on the primary prevention of colorectal cancer through lifestyle intervention, which deserves further in-depth explorations." For the study, 833 patients of colorectal cancer were matched to 833 healthy controls by age, sex and residence area.

Importantly, according to World Health Organization, colorectal cancer is one of the most common cancers around the world along with male preponderance with 1.80 million cases and 862,000 deaths in 2018.

In addition, the incidence is on the rise in India. — IANS

Health Care Services (Hindustan: 20190227)

http://epaper.livehindustan.com/imageview_125387_69996308_4_1_27-02-2019_i_4.pagezoomsinwindows.php

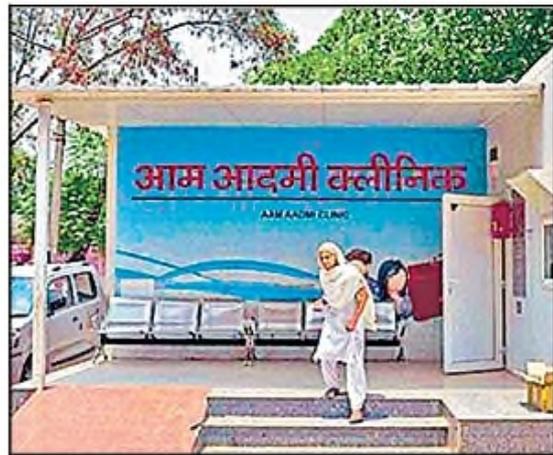
अस्पतालों में 20 हजार होगी बिस्तरों की संख्या

नई दिल्ली | वरिष्ठ संवाददाता

दिल्ली सरकार ने मंगलवार को नए वित्तीय वर्ष में स्वास्थ्य सेवाओं के लिए 7485 करोड़ रुपये का बजट रखा है। इसमें से स्वास्थ्य योजनाओं और उनके क्रियान्वयन के लिए 3737 रुपये खर्च होंगे। साथ ही, सरकारी अस्पतालों में बिस्तरों की संख्या दोगुनी करने की भी घोषणा की है। इसके तहत सरकारी अस्पतालों में मौजूदा समय में उपलब्ध 10 हजार बिस्तर नए वित्तीय वर्ष में 20 हजार हो जाएंगे।

बजट की घोषणा करते हुए वित्त मंत्री मनीष सिसोदिया ने कहा कि नए वित्तीय वर्ष में अंबेडकर नगर में बन रहे 600 बिस्तरों वाले अस्पताल व बुराड़ी में बन रहे 800 बिस्तरों वाले अस्पताल का निर्माण जल्द ही पूरा होगा। वहीं, द्वारका में बन रहा 1241 बिस्तर वाले अस्पताल का निर्माण कार्य अंतिम चरणों में है।

वहीं, बजट में दिल्ली सरकार ने 923 करोड़ की लागत से आरटीआरएम अस्पताल, आचार्य श्री भिक्षु अस्पताल, दीपचंद बंधु अस्पताल, भगवान महावीर अस्पताल, संजय गांधी अस्पताल,



जून 2019 तक 333 नए मोहल्ला क्लीनिक खुलेंगे

दिल्ली में जून 2019 तक 333 नए मोहल्ला क्लीनिक खुलेंगे। बजट में सरकार ने मंगलवार को इस बात की जानकारी है। सरकार ने बताया कि दिल्ली में कुल एक हजार मोहल्ला क्लीनिक खोलने का लक्ष्य है। इसके तहत अभी तक 189 मोहल्ला क्लीनिक खोले गए हैं।

सड़क दुर्घटना योजना में 3000 से ज्यादा का इलाज

सरकार ने सड़क दुर्घटना योजना शुरू की थी। वित्त मंत्री ने बताया कि इस योजना के अंतर्गत तीन हजार से ज्यादा लोगों का इलाज किया जा चुका है। घायल को अस्पताल पहुंचाने

Health and Education ((Hindustan: 20190227))

http://epaper.livehindustan.com/imageview_125387_69995378_4_1_27-02-2019_i_4.pagezoomsinwindows.php



शिक्षा और स्वास्थ्य पर सबसे ज्यादा जोर

- युवा, कच्ची कॉलोनी और झुग्गीवालों को भी मिली खास तवज्जो
- शिक्षा में सुधार पर खर्च होगी बजट की एक चौथाई धनराशि

नई दिल्ली | वरिष्ठ संवाददाता

दिल्ली सरकार ने विधानसभा में मंगलवार को वित्त वर्ष 2019-20 के लिए 60 हजार करोड़ का बजट पेश किया। 'आप' सरकार का यह पांचवां और आखिरी बजट है। बजट में शिक्षा और स्वास्थ्य पर सबसे ज्यादा जोर दिया गया है। साथ ही, झुग्गी और कच्ची कॉलोनीयों के विकास को भी प्राथमिकता में शामिल किया गया है। झुग्गी में रहने वाले 52 हजार लोगों को घर देने का ऐलान किया गया है।

टैबलेट देने का कोष बनाया: मनीष सिंसोदिया ने बजट भाषण में कहा कि हम शिक्षा और स्वास्थ्य जैसी बुनियादी सुविधाओं को बेहतर बनाने का संकल्प लेकर आए थे। उसे अब भी जारी रखे हुए हैं। उन्होंने शिक्षा के लिए कुल बजट का 26 फीसदी यानि 15,601 करोड़ रुपये रखा है। यही एक क्षेत्र है, जहां पूरे बजट में नई योजना जैसे 11वीं और 12वीं के छात्रों को टैबलेट देने के लिए कोष बनाया गया है।

उन्होंने कहा कि शुरुआत में टैबलेट राजकीय प्रतिभा विकास विद्यालय और स्कूल ऑफ एक्सीलेंस के छात्रों को उपलब्ध करवा जाएगा। इसके लिए, सरकार ने नौ करोड़ का फंड आवंटित किया है। 10वीं में 80 फीसदी अंक लाने वाले छात्रों को टैबलेट या क्रम्यूटर दिया जाएगा।

पुरानी योजनाओं को पूरा करने पर जोर: स्वास्थ्य विभाग के लिए कुल

गरीबों को 52 हजार नए घर देने की घोषणा

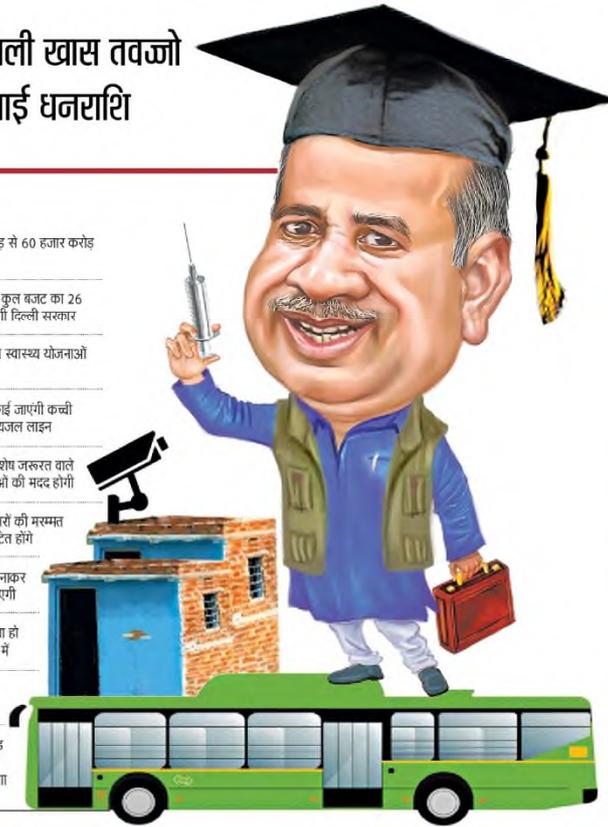
सरकार ने बजट में झुग्गीवालों को 52 हजार नए घर देने की बात कही है। दरअसल, यह वो घर हैं, जो बनकर तैयार हैं। मगर, लोग उसमें रह नहीं रहे हैं, क्योंकि वह जरूर हो चुके हैं। सरकार ने इन घरों की मरम्मत के लिए 600 करोड़ बजट का प्रावधान किया है। इसके अलावा, चार भवन निर्माण परियोजनाएं लुईस द्वार शुरू की जाएगी। इसके लिए 200 करोड़ का प्रावधान अलग से किया गया है। वहीं, बजट में प्रत्येक विधानसभा में सीसीटीवी कैमरे लगाने के लिए 500 करोड़ रुपये आवंटित किए गए हैं। मनीष सिंसोदिया ने कहा कि कैमरे लगाने का काम शुरू हो चुका है।

7485 करोड़ का बजट रखा गया है। इसमें योजनागत बजट 3737 करोड़ का है, जो पिछले बजट से 2576 करोड़ अधिक है। इसमें 45 फीसदी का इजाफा किया गया है। सरकार ने बजट में ज्यादातर पुरानी योजनाओं को पूरा करने पर जोर दिया है।

इसमें इलेक्ट्रिक वाहनों की संख्या बढ़ाना, बसों की संख्या को बढ़ाना, विधानसभाओं में सीसीटीवी कैमरा लगाना, कच्ची कॉलोनीयों के विकास में तेजी लाना समेत अन्य योजनाएं शामिल हैं। सरकार ने बजट में पानी की जलापूर्ति को बेहतर बनाने के लिए भी वर्षा जल संचयन पर जोर दिया है।

दस प्रमुख बातें

1. पांच वर्षों में 30 हजार करोड़ से 60 हजार करोड़ का हुआ सालाना बजट
2. 15601 करोड़ रुपये यानी कुल बजट का 26 फीसदी शिक्षा पर खर्च करेगी दिल्ली सरकार
3. 7485 करोड़ रुपये विभिन्न स्वास्थ्य योजनाओं पर खर्च किए जाएंगे
4. 1600 करोड़ रुपये से बिछाई जाएगी कच्ची कॉलोनीयों में सीयर और पेयजल लाइन
5. 2214 करोड़ से बुजुर्गों, विशेष जरूरत वाले लोगों व संकटग्रस्त महिलाओं की मदद होगी
6. 800 करोड़ से 52 हजार घरों की मरम्मत होगी। झुग्गीवालों को आवंटित होगे
7. 1000 एफड में जलाशय बनाकर पेयजल समस्या दूर की जाएगी
8. 20 हजार विस्तारों की क्षमता हो जाएगी सरकारी अस्पतालों में
9. 4000 नई बसें अगले वित्त वर्ष तक आ जाएगी
10. युनिवर्सिटी ऑफ एप्पाइयड साइंस और टैचर्स ट्रेनिंग युनिवर्सिटी बनाने की घोषणा



Chip (Dainik Jagaran: 20190227)

https://epaper.jagran.com/epaper/article-27-Feb-2019-edition-delhi-city-page_28-6312-6579-4.html

चिप की मदद से जल्द होगी कैंसर की जांच

अब खून की एक बूंद या प्लाज्मा की जांच से ही कैंसर का पता लगाया जा सकेगा। अमेरिकी वैज्ञानिकों ने इसके लिए एक चिप विकसित की है। इस किफायती 'लैब ऑन चिप' डिवाइस की मदद से बिना किसी साइड इफेक्ट के कैंसर का जल्द पता लग सकता है। यूनिवर्सिटी ऑफ कंसास के एसोसिएट प्रोफेसर योंग जेंग द्वारा विकसित यह चिप 3डी नैनो इंजीनियरिंग तकनीक से काम करती है। दरअसल, ट्यूमर के विकास को तेज करने के लिए कोशिकाएं एक्सोजोम उत्सर्जित करती हैं। यह चिप इन एक्सोजोम की पहचान कर कैंसर का पता लगाती है। रक्त या प्लाज्मा की जांच के दौरान एक्सोजोम को चिप में लगे सेंसर के नजदीक भेजा जाता है। (आइएएनएस)