



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Tuesday 20190212

Alcohol Dependence (Navbharat Times:20190212)

<http://epaper.navbharattimes.com/details/15634-77301-1.html>

25 से पहले शराब पीने लगते हैं 88 % युवक

■ **विस, नई दिल्ली :** अंडर एज ड्रिंकिंग यानी शराब पीने की कानूनी उम्र से पहले ही ड्रिंकिंग शुरू करने को लेकर किए गए एक सर्वे में चौंकाने वाले खुलासे हुए हैं। इससे यह पता चला कि दिल्ली के 88 प्रतिशत से ज्यादा युवा 25 साल की उम्र से पहले ही शराब पीना शुरू कर चुके थे। साथ ही यह भी पता चला कि ऐसे लोगों को उनकी उम्र जाने बिना ही दुकानों से शराब भी बेची गई। ड्रंकन ड्राइविंग को रोकने के लिए काम करने वाली संस्था कम्यूनिटी अगेंस्ट ड्रंकन ड्राइविंग (सीएडीडी) के द्वारा कराए गए सर्वे से ये खुलासा हुआ है। सीएडीडी के फाउंडर, एक्टिविस्ट और रोड सेफ्टी एक्सपर्ट प्रिंस सिंघल ने बताया कि युवाओं में बढ़ती शराब की लत और अंडर एज

- 88.8 प्रतिशत युवाओं ने माना कि उन्होंने 25 साल की उम्र से पहले ही शराब पीना शुरू कर दिया था
- 36.9 प्रतिशत युवाओं ने माना कि वह हफ्ते में कम से कम एक बार शराब पीते हैं
- 30.7 प्रतिशत युवाओं ने बताया कि वे 15 दिन में एक बार शराब पीते हैं
- 87.3 प्रतिशत युवाओं ने यह भी माना



कि वह तय सीमा से ज्यादा शराब पीते हैं

- 23.1 प्रतिशत युवाओं ने बताया कि उन्होंने शौकिया तौर पर सिगरेट पी है
- 64.7 प्रतिशत युवाओं ने माना कि उन्होंने शराब ट्राई की है
- 33.8 प्रतिशत ने माना शराब पीने के बाद झगड़े या बहस में शामिल हुए

ड्रिंकिंग के बढ़ते चलन और कम उम्र के युवाओं को शराब बेचे जाने के कारणों का पता लगाने के लिए पिछले साल 1 सितंबर से 31 दिसंबर के बीच यह सर्वे किया गया था। दिल्ली में शराब की 50 बड़ी दुकानों

और शराब परोसेन वाले बार और रेस्टोरेंट्स के बाहर यह सर्वे किया गया था। इस दौरान 25 साल से कम उम्र के 10 हजार युवाओं से उनकी प्रतिक्रिया ली गई। इनमें से 2310 युवा ऐसे भी थे, जिनकी उम्र 18 साल से

भी कम थी।

सर्वे के नतीजों से यह चौंकाने वाला खुलासा हुआ कि इस सर्वे में शामिल 98.1 प्रतिशत युवाओं को यह तो पता था कि दिल्ली में कानूनी तौर पर शराब पीने की न्यूनतम आयु सीमा 25 साल है, यानी इससे कम उम्र के युवा न तो शराब पी सकते हैं और ना ही उन्हें कोई शराब बेच सकता है, लेकिन सर्वे में शामिल 88.8 प्रतिशत युवाओं ने माना कि उन्होंने 25 साल की उम्र से पहले ही शराब पीना शुरू कर दिया था। इन युवाओं से यह भी पता चला कि वो अलग-अलग जगहों से शराब खरीदते रहे हैं और इस दौरान किसी ने कभी उनकी उम्र के बारे में पूछताछ नहीं की और ना ही उन्हें शराब बेचने से मना किया।

89% युवाओं ने 25 साल से कम उम्र में पी शराब, 87% एक बार में 5 से ज्यादा पैग पीते (Dainik Bhaskar:20190212)

<https://www.bhaskar.com/national/news/community-against-drunken-driving-survey-01487805.html>

कम्यूनिटी अगेंस्ट ड्रंकन ड्राइविंग ने 10 हजार युवाओं पर किया शोध

इस सर्वे में 3024 महिलाओं को भी शामिल किया गया

नई दिल्ली. दिल्ली के युवा शराब पीने की वैध 25 साल की उम्र तक पहुंचने से पहले ही शराब पी रहे हैं। शराब पीने वालों में 89 फीसदी ऐसे थे जिन्होंने 25 साल से पहले शराब पी। यह खुलासा कम्यूनिटी अगेंस्ट ड्रंकन ड्राइविंग (कैड) के सर्वे से हुआ है। सर्वे जितनों से पूछा गया उसमें 65% ने कहा शराब ट्राई की जबकि 23% ने कहा सिगरेट का कश लगाया। जो शराब पी रहे हैं उनमें 87% ऐसे मिले जिन्होंने माना कि एक बार में 5 पैग से ज्यादा पीते हैं। वहीं 20 फीसदी युवाओं ने माना कि शराब परिवार के सदस्य, दोस्त या भाई-बहन को बताकर जुटाई।

शराब होटल या पब में पीते समय या खरीदते समय किसी ने उम्र का प्रूफ नहीं मांगा : 98% युवाओं को कानूनी उम्र 25 साल होने की जानकारी है लेकिन 100% ने माना कि शराब होटल या पब में पीते समय या दुकान से खरीदते समय किसी ने इस कानूनी प्रावधान की जानकारी नहीं दी। न किसी ने उम्र का प्रूफ मांगा। जितने लोगों से पूछा उसमें 11% ऐसे मिले जिन्होंने 25 साल की उम्र के पहले शराब ट्राई नहीं की इतनी ही संख्या ऐसे लोगों की थी जिन्होंने 15 साल की उम्र से पहले भी शराब पी।

सर्वे में सामने आया 12% ऐसे थी जिन्होंने न तो शराब पी और न सिगरेट। सर्वे करने वाली संस्था कैड के मुखिया प्रिंस सिंघल का कहना है शराब पीने के बाद 52% ने माना विवाद में शामिल होते हैं या वो एग्रेसिव हो जाते हैं। इतना ही नहीं 48% ने स्वीकार किया कि शराब पीकर वाहन चलाते हैं, स्टंट करते हैं। कहा रिपोर्ट दिल्ली के सीएम, पुलिस आयुक्त, आबकारी आयुक्त को सौंपी जाएगी ताकि कार्रवाई हो।

3024 महिलाएं भी शामिल सर्वे में : कैड ने 10 हजार लोगों पर सर्वे किया है जिसमें 3024 महिलाएं शामिल हैं। सर्वे में शामिल सभी जवाब देने वालों की उम्र 25 साल से नीचे हैं। इसमें से 2310 (23.1%) की उम्र 18 साल से भी नीचे है। सर्वे 1 सितंबर, 2018 से 31 दिसंबर, 2018 के बीच हौजखास विलेज,

राजौरी गार्डन, डीएलएफ माल साकेत, एंबिएंस मॉल वसंत कुंज, डिफेंस, कनाॅट प्लेस, साउथ एक्सटेंशन, खान मार्केट, ग्रीन पार्क, एसडीए मार्केट, सिटी स्काॅयर मॉल, न्यू फ्रेंड्स कालोनी मार्केट, एम2के, वी3एस, ईडीएम मॉल, प्रिया सिनेमा, शाहपुर जट मार्केट समेत रेस्टोरेंट और होटल, पब में किया गया।

कम उम्र में शराब पीने वालों के खिलाफ कार्रवाई : दिल्ली आबकारी आयुक्त रवि धवन का कहना है कि कम उम्र में शराब पीने वाले के खिलाफ कार्रवाई का प्रावधान एक्ट में नहीं है। 25 साल से कम उम्र के व्यक्ति को कोई लाइसेंस धारक दुकानदार शराब बेचता है या लाइसेंस धारक शराब परोसता है तो उस पर एफआईआर होगी। सिर्फ आबकारी विभाग ही नहीं बल्कि दिल्ली पुलिस भी एफआईआर कर सकती है। विभाग के उपायुक्त जेपी सिंह का कहना है कि सभी जगह 25 साल से कम उम्र के व्यक्ति को शराब नहीं दी जाएगी, ये लिखकर लगाए गए हैं। सीसीटीवी कैमरा भी हैं।

ये है दिल्ली एक्साइज एक्ट में प्रावधान : दिल्ली एक्साइज एक्ट-2009 के सेक्शन 42 में प्रावधान है अगर कोई लाइसेंस धारक 25 साल से कम उम्र के व्यक्ति को शराब बेचता या परोसता है तो उसके खिलाफ एफआईआर दर्ज कराई जाएगी। इसमें 10 हजार जुर्माना हो सकता है। शराब परोसने वाले की न्यूनतम उम्र 21 साल रखी गई है। कोई लाइसेंस धारक 21 साल से कम उम्र के व्यक्ति को शराब बेचने या परोसने के लिए नौकरी पर रखता है तो सेक्शन 42(2) में एफआईआर दर्ज होगी। इसमें 3 माह की सजा या 50 हजार तक जुर्माना हो सकता है।

गर्भाशय कैंसर

गर्भाशय कैंसर की जांच अब होगी आसान (Dainik Jagran:20190212)

https://epaper.jagran.com/epaper/article-12-Feb-2019-edition-delhi-city-page_16-6931-3236-4.html

जागरण संवाददाता, कानपुर : गर्भाशय कैंसर से पीड़ित महिलाओं को अब उन मुश्किल जांचों से नहीं गुजरना होगा जो उनके लिए दर्दनाक भी होती हैं। बाॅयोफोटोनिक्स के क्षेत्र में शोध कार्य करने वाली आइआइटी प्रोफेसर डॉ. असीमा प्रधान ने गर्भाशय कैंसर की जांच आसान करने वाली डिवाइस बनाई

है। इस डिवाइस से पोलोराइज्ड फ्लोरोसेंस लेजर लाइट के माध्यम से कैंसर की प्रारंभिक जांच की जा सकती है। अभी तक पैप स्मीयर व बॉयोप्सी टेस्ट के जरिये गर्भाशय कैंसर का पता लगाया जाता है, जो मुश्किल व बेहद दर्दनाक होता है। प्रो. प्रधान ने जो डिवाइस बनाई है, उससे जांच के दौरान मरीज को लेजर लाइट से गुजारा जाता है। जिससे फ्लोरोसेंस कैंसर डिटेक्ट कर लेता है। इस जांच में शरीर में बदलाव से कैंसर का पता लगाया जाता है। प्रयोग सफल होने के बाद जल्द ही यह मरीजों की जांच के लिए इस्तेमाल की जा सकेगी।

अल्जाइमर

अल्जाइमर के खतरे से भी बचा सकता है व्यायाम (Dainik Jagran:20190212)

https://epaper.jagran.com/epaper/article-12-Feb-2019-edition-delhi-city-page_20-7443-3258-4.html

व्यायाम करना शारीरिक ही नहीं मानसिक सेहत के लिए भी अच्छा है। ताजा अध्ययन के मुताबिक, व्यायाम से शरीर में ऐसे हार्मोन स्रावित होते हैं, जो याददाश्त सुधारने में मददगार हैं। यह बड़ी उम्र में अल्जाइमर जैसी बीमारी से बचाने में भी सहायक है। पिछले अध्ययनों में शोधकर्ताओं ने पाया था कि व्यायाम जैसी शारीरिक गतिविधि से इरिजिन नाम का एक हार्मोन स्रावित होता है। शुरुआती अध्ययनों में इरिजिन को एनर्जी मेटाबॉलिज्म में मुख्य भूमिका निभाने वाला हार्मोन पाया गया था। नेचर मेडिसिन जर्नल में प्रकाशित अध्ययन के मुताबिक, यह हार्मोन सीखने और याद रखने में भूमिका निभाने वाले दिमाग के हिस्से हिप्पोकैंपस में न्यूरोन गतिविधियों को प्रोत्साहित करता है। अमेरिका की कोलंबिया यूनिवर्सिटी के प्रोफेसर ओट्टावियो अरांसियो ने कहा, 'इससे यह समझने में मदद मिलेगी कि व्यायाम जैसी शारीरिक गतिविधियां अल्जाइमर जैसी दिमागी बीमारी से बचाने में कैसे सहायक हो सकती हैं।' इस खोज से भविष्य में अल्जाइमर के इलाज का रास्ता भी मिल सकता है। - प्रेट्र

वैज्ञानिकों ने एक ऐसे जीन की पहचान की है, जिसकी मदद से शराब की लत और मूड डिसऑर्डर की समस्या से निपटने की दवा ईजाद की जा सकती है। अमेरिका में ओरेगॉन हेल्थ एंड साइंस यूनिवर्सिटी

के शोधकर्ताओं ने ऐसे जीन की पहचान की है, जिसकी कम सक्रियता ज्यादा शराब के सेवन के लिए प्रेरित करती है। वैज्ञानिकों ने शराब और इस जीन की सक्रियता के बीच संबंध का पता लगाया है। वैज्ञानिकों ने बताया कि प्रयोग के दौरान जिन चूहों को जीन एनकोडेड प्रोटीन दिया गया, उनमें शराब के सेवन की मात्रा करीब आधी रह गई। प्रोटीन को जिस जीपीआर-39 जीन से एनकोड किया गया था, इसे पहले अवसाद से निपटने में भी कारगर पाया जा चुका है। शोधकर्ताओं ने कहा कि नतीजे उत्साहजनक हैं। इससे ऐसी दवा ईजाद करने का रास्ता खुल सकता है, जो शराब की लत और अवसाद दोनों परेशानियों से निपटने में मददगार हो। - प्रेटर

कैंसर संस्थान

झज्जर में कैंसर संस्थान का उद्घाटन आज (Hindustan:20190212)

http://epaper.livehindustan.com/textview_95646_65889070_4_1_13_12-02-2019_1_1.html

नई दिल्ली । पीएम मोदी एम्स की ओर से झज्जर में बनाए गए राष्ट्रीय कैंसर संस्थान का उद्घाटन मंगलवार को करेंगे। वे कुरुक्षेत्र से वीडियो कॉन्फ्रेंसिंग के जरिये उद्घाटन करेंगे। .

राष्ट्रीय कैंसर संस्थान के निदेशक डॉक्टर जीके रथ ने बताया कि शुभारंभ कार्यक्रम सुबह साढ़े 9 बजे से प्रारंभ होगा। इस दौरान केंद्रीय स्वास्थ्य मंत्री जेपी नड्डा, एम्स के निदेशक डॉक्टर रणदीप गुलेरिया झज्जर में ही मौजूद रहेंगे। एम्स के राष्ट्रीय कैंसर संस्थान में 60 हजार मरीजों के सैंपल एकत्र करने वाली लैब शुरू हो चुकी है। एक दिन में 60 हजार मरीजों की कैंसर जांच के लिए कोशिकाओं के नमूने लिए जा सकते हैं। .

50 बेड की सुविधा शुरू : राष्ट्रीय कैंसर संस्थान के निदेशक डॉक्टर जी.के रथ ने बताया कि राष्ट्रीय कैंसर संस्थान में 50 बेड की सुविधा शुरू की जा चुकी है। इस साल के अंत तक संस्थान में 400 बेडों की सुविधा शुरू कर दी जाएगी। (व.सं.).

साइनस के मरीज में अवसाद का खतरा

नई दिल्ली। एक हालिया शोध के मुताबिक गंभीर साइनस से जूझ रहे मरीजों में अवसाद और तनाव का खतरा दोहरा होता है। दक्षिण कोरिया में हुए एक हालिया अध्ययन से जुड़े शोधकर्ताओं का कहना है कि संक्रमण से जूझ रहे मरीजों में मानसिक रोगों का खतरा ज्यादा होता है। दस में से एक व्यक्ति को साइनस संक्रमण होता है, जिसके चलते नाक में सूजन बढ़ जाती है। साइनस के मरीज को सांस लेने में दिक्कत होती है। संक्रमण मरीजों की रोजमर्रा की जिंदगी को काफी मुश्किल बना देता है।

दक्षिण कोरिया के हेलिम यूनिवर्सिटी कॉलेज ऑफ मेडिसिन के असिस्टेंट प्रोफेसर डॉ. डोंग-क्यू किम का कहना है कि यह तो सभी जानते हैं कि साइनस शरीर की स्वास्थ्य सुरक्षा प्रणाली को प्रभावित करता है। लेकिन इस संक्रमण का मरीज के मानसिक स्वास्थ्य पर भी असर हो सकता है।

Birth-control pills

Birth-control pills may make women less able to read emotions: Study (The Times of India:20190212)

<https://www.pressreader.com/>

Berlin: Women who use birth control pills may have a poor judgement of subtle facial expressions, which could impact their intimate relationships, according to a study. Published in the journal *Frontiers in Neuroscience*, the study, found that OCP users were nearly 10% worse on average than non-users in deciphering the most enigmatic emotional expressions.

The finding raises questions over the possible impact of OCPs on social interactions in intimate relationships, researchers said.

Scientists from the University of Greifswald in Germany administered a special emotion recognition task to two similar groups of healthy women: 42 OCP users, and 53 non-users. The researchers used an emotion recognition task that required the recognition of complex emotional expressions like pride or contempt, rather than basic ones like happiness or fear, from the eye region of faces. The results were subtle — but very clear: OCP users were less accurate in the recognition of the most subtle complex expressions than non-users — by nearly 10%, on average. “Whereas the groups were equally good at recognising easy expressions, the OCP users were less likely to correctly identify difficult expressions,” said Alexander Lischke of the University of Greifswald. Besides birth control, hormonal contraceptives can help control acne, heavy periods and endometriosis — as well as reducing the risk of ovarian, uterine and colon cancers, the researchers said. On the downside, the pill can increase slightly the risk of breast and cervical cancer, blood clots and high blood pressure, they said. However, the psychological effects of OCP use are less well documented.

Ayushman Bharat

Wellness centres key to success of Ayushman Bharat (The Tribune:20190212)

<https://www.tribuneindia.com/news/comment/wellness-centres-key-to-success-of-ayushman-bharat/727632.html>

Once established, the health and wellness centres will provide primary medical care, free drugs and diagnostic services, handling more than 70 per cent of the outpatient load. These will also ensure medication compliance and follow-up care, saving people from the exploitative and unethical practices that are allegedly rampant during hospitalisation.

President, Society for Promotion of Ethical and Affordable Healthcare

SETTING up 1.5 lakh health and wellness centres (HWCs) across the country can be a game-changer to realise the goal of healthcare for the teeming millions of India. Health insurance and Mission Indradhanush have hogged the limelight, but the HWC component has got sidelined. The latter is a vital part of Prime Minister's Jan Arogya Yojana (PM-JAY), also called Ayushman Bharat.

India cannot afford the luxury of ensuring patient care to all or even 40 per cent poor citizens under Ayushman Bharat. Health preservation for all is a more practical proposition. Emphasis on prevention is a prerequisite for the programme's success.

Wellness means that a person is free of risk factors for disease and does not practise adverse behaviour, such as smoking, drinking and taking drugs, that could jeopardise health. The terms 'wellness' and 'health' are not synonymous. Wellness is the "active process of becoming aware of and making choices toward a healthy lifestyle, fitness and well-being."

Essentially, if health is the goal, wellness is the way to achieve it. Wellness is the action, while health is the desired outcome. If wellness is practised, diseases can be kept at bay.

A conscious effort to improve wellness can ultimately reduce treatment costs. If 80 per cent of the people who throng hospitals as patients do not fall sick, it will be easier to give health insurance cover or provide treatment to the remaining 20 per cent in hospitals.

Viewed on a larger canvas, the setting up of HWCs will be of great benefit to the employers of corporate houses for enhancing productivity. Educating the workforce about wellness and lifestyle changes, such as drinking plenty of water instead of tea; walking to office instead of using a vehicle; taking a walk during breaks instead of sitting; spending less time on the mobile phone; and packing fruits and vegetables or home-made lunch instead of ordering junk food can help people achieve their wellness goals. The government can intervene to reduce the content of excessive salt, sugar and trans-fats in packaged food. Setting up gyms or making a provision for outdoor sports on corporate or institution premises can boost

wellness and increase productivity. This will be of great importance for health insurance companies also. If they administer wellness to their policy-holders rather than wait for them to fall sick and then reimburse medical treatment costs, their own profitability will increase. This will also promote the penetration of universal health insurance.

Health insurance under Ayushman Bharat, which offers to meet the cost of hospitalisation up to Rs 5 lakh per family, has made a good beginning. Dr Indu Bhushan, CEO of Ayushman Bharat and the National Health Agency, vouches for its initial success with 7 lakh hospitalisation cases, Rs 900-crore disbursal and 45 lakh registrations under the programme in the first 100 days.

However, insurance is only a palliative for 40 per cent poor population, leaving aside the remaining 60 per cent. Do we have the resources and infrastructure to spend Rs 5 lakh per family for over 10 crore poor households? How to ensure that it will be implemented ethically? The HWCs, when set up, will provide primary medical care, free drugs and diagnostic services. These will handle more than 70 per cent of the outpatient load. These will also ensure medication compliance and follow-up care, saving people from the exploitative and unethical practices that are allegedly rampant during hospitalisation.

Estimates show that it will cost about Rs 20 lakh to set up and run an HWC. Thus, the annual spend on HWCs will be Rs 30,000 crore. The Union Health Ministry has neither allocated the resources nor has the national health budget been raised from about 1 per cent of the GDP to the promised 2.5 per cent. However, it will be unfair to condemn Ayushman Bharat as a utopian or election stunt. If a nationwide network of HWCs is set up and resources are provided, it can achieve the objective of a healthy India.

Studies in countries such as Brazil show that good health can be attained through preventive and primary healthcare. Closer home, a study from Tamil Nadu of 67 HWCs shows that out-of-pocket expenditure on medical treatment has reduced dramatically, while people's access to medical treatment and its utilisation have improved considerably.

In the Indian context, where there is a perennial shortage of doctors, an institution of 'wellness and well-being coach' (WWC) needs to be created. You don't need a doctor for remaining healthy. For the training of WWCs, you don't require a medical college. It can be a four-year BSc course in wellness and well-being in colleges. The WWCs can take charge of wellness practices and preventive health of the entire population, and administer health education on their doorstep. In case of illness, the WWC can refer the patient for primary, secondary or tertiary care under Ayushman Bharat. The institution of WWCs has the potential to create millions of jobs and reduce expenditure on opening medical institutes as well as tertiary patient care.

Swine Flu (The Asian Age:20190212)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=12434197>

Docs treat pregnant woman with H1N1

SHASHI BHUSHAN
NEW DELHI, FEB. 11

In a rare case, doctors at the Fortis Escorts Heart Institute (FEHI) treated successfully a 30-year-old pregnant woman who had tested positive for swine flu (H1N1 virus).

The case was extremely critical and complex as her foetus could not be delivered prematurely but had to be protected from the virus in the womb. There was also a risk of the mother developing bleeding complications and losing the unborn

child. The 24-week pregnant woman was brought to the hospital with fever, persistent cough and shortness of breath.

A team of doctors, led by Dr Vineeta Goyal, senior consultant in the critical care department at FEHI, took on the high-risk case and treated the patient successfully through extracorporeal membrane oxygenation (ECMO).

Dr Goyal said: "Her condition continued to deteriorate. When the chances of survival for both the mother and the child fell considerably, the patient's

▶ The case was extremely critical and complex as the foetus of the 24-week pregnant woman, who had tested positive for H1N1 virus, could not be delivered prematurely but had to be protected from the virus in the womb.

family was given the option for ECMO which acts as a heart-lungs bypass. It can support and perform the functions of the lungs and the heart of

the mother and the child. Within one hour of ventilation, ECMO was instituted. There was immediate improvement in the blood oxygen levels of the patient. Since she had tested positive for the H1N1 virus, we had to treat her with antivirals such as 'oseltamivir'.

"A gynaecologist was consulted on regular basis and repeated ultrasounds were done to ensure foetal wellbeing. After fifteen days, the patient was successfully weaned off ECMO and her foetus was alive and thriving."

Women and Child Development

60% children adopted in India between 2015 and 2018 are girls (The Hindu:20190212)

<https://www.thehindu.com/news/national/60-children-adopted-in-india-between-2015-and-2018-are-girls/article26241070.ece>

Data from the Ministry of Women and Child Development shows that of the 11,649 children adopted, 6,962 were girls and 4,687 were boys

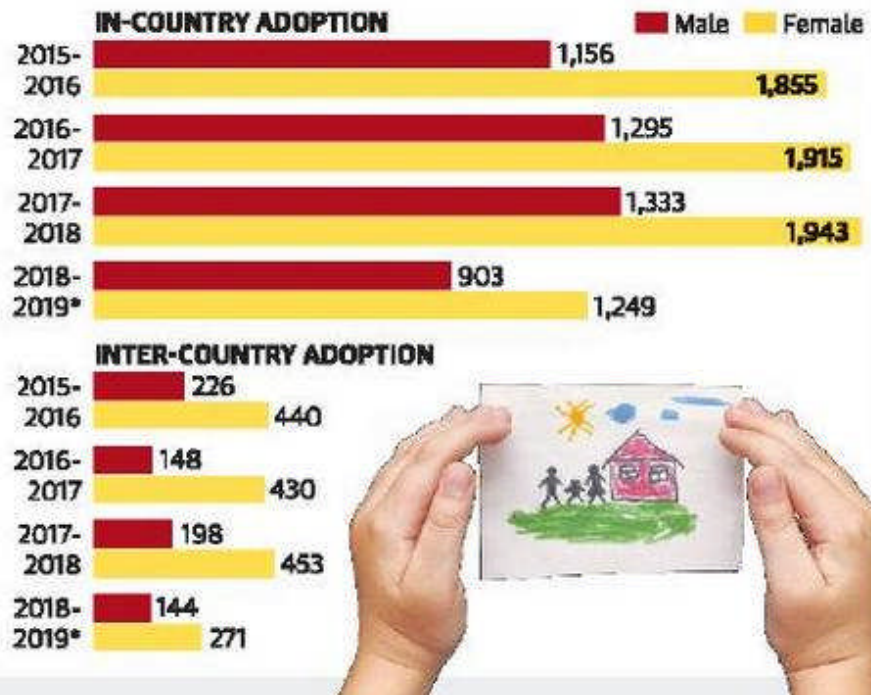
India may have a skewed gender ratio, but the female child happens to be the first choice when it comes to adoption. The number of female children placed for in-country adoptions and inter-country adoptions between 2015 and 2018 are relatively higher than male children.

Daughters in demand

Between 2015 and 2018, about 60% of children adopted in the country were girls. The figure jumps to 69% when it comes to inter-country adoptions

*Figures till December 2018

Source: CARINGS (Child Adoption Resource Information and Guidance System), Ministry of Women and Child Development



During this period, about 11,649 children were put up for in-country adoptions; of them 6,962 were girls and 4,687 were boys. Of the 3,011 children that were placed for in-country adoption in 2015-16, as many as 1,855 were female children. In the year 2016-17, as many as 3,210 children were placed under in-country adoptions and of them 1,915 were females. The figures for 2017-18 and 2018-19 (till December 2018) were 3,276 and 2,152, of which the numbers of girl children were 1943 and 1249 respectively.

All the figures put together, female children comprise almost 60% of all in-country adoptions. When it came to inter-country adoptions, the number of female children was even higher: 69%. Of the 2,310 children placed under adoption between the same period, 1,594 were females.

60% children adopted in India between 2015 and 2018 are girls

The data was tabled by the Ministry of Women and Child Development in the Lok Sabha on February 8, in response to a question by members Tej Pratap Singh Yadav, L.R. Shivaram Gowda and Anju Bala.

Prajakta Kulkarni, a member of the Central Adoption Resource Authority (CARA), said there was little doubt that more girls were being adopted and it reflected that gender bias and the attitude of people against the girl child are changing across the country. Ms. Kulkarni, who represents the NGO-run Specialised Adoption Agency in the CARA steering committee, said the whole issue of more girls getting adopted needs to be looked into with research.

More girls for adoption?

Sindhu Naik, member, Adoption Scrutiny Committee, State Council of Child Welfare (Karnataka), said that one has to also look whether more girls were coming for adoption. Ms.

Naik said that the urban middle class people were preferring female children because they are concerned and aware of the situation of the girl child. The situation may not be the same for villages and small towns, she said.

Sustainable Development Goals

The state of the States (The Hindu:20190212)

“India has been making sincere efforts to achieve the SDGs.”

The SDG India Index overlooks the aspect of inter-dependence of Sustainable Development Goals

India was one among the 193 United Nations member states to adopt the Sustainable Development Goals (SDGs) in September 2015. It has been making sincere efforts to achieve these goals. The SDG India Index: Baseline Report 2018, released to the public in December 2018 by NITI Aayog, is a useful comparative account of how well different States and Union Territories have performed so far in their efforts to achieve these goals.

In this effort, it has not been possible to establish suitable indicators for three of the 17 goals, including climate action (SDG-13). This is on account of either lack of identification of appropriate indicators or of the inability to compare different States. On the whole, 62 indicators representing 14 goals have been identified based on their measurability across States over time. A progress performance assessment has been made towards targets set by the Government of India, or the UN SDGs target for 2030, or the average of the three best-performing States. For reasons of comparability, all these indicators are normalised.

Four categories

Based on a scale of 0 to 100, the States are categorised into four groups: achievers, front runners, performers, and aspirants. Achievers are those States which have already accomplished the set target. Front runners are those States that are very close to realising them. A majority of the States are categorised as performers and some lag behind as aspirants. Although classification sounds like an appropriate thing to do, there is arbitrariness in the exercise in the sense that in a unitary range, those States with scores till the midpoint are categorised as aspirants and a cluster of States in a close range of progress are termed as performers. A few States are designated as front runners. The three front runner States — Tamil Nadu, Kerala, and Himachal Pradesh — assume values of 66, 69 and 69, respectively, as against a range of States with values between 50 and 64. With the national score being 57, almost 17 States qualify as above or equal to the national score. Plotted on a graph, there is a

negatively skewed distribution of scores with a reasonable tail to the left, a fat presence in the middle, and a tapering to the right. This needs to be recognised in classification; otherwise the arbitrariness with which the classification is made somewhat hints at a purposive designation of a few States in two extremes and a major share of them in between.

The problem of averaging

Further, when one reads into the performance on various SDGs, it is found that many States fall into the aspirant category, especially for SDG-5 (gender equality), SDG-9 (industry innovation and infrastructure) and SDG-11 (sustainable cities and communities). These kinds of differences could well be emerging owing to a different number of indicators considered under different SDGs as well as their corresponding variability across the States. This is evident in the variation of scores across different goals. For instance, in case of goals 1 and 2, the range for the majority of the States is between 35 and 80. For goals 3 and 6, the range is between 25 and 100. Again, for goal 5, it ranges between 24 and 50. Given these variations across different goals, merely averaging them not only compromises on robustness but also masks the disaggregated story to a large extent. Not only does the feature of the progress performance pattern need to be recognised in such classification but also the pathway of progress in development indicators, which has a character removed from linearity. Given that this is a measure of progress towards a target, the States near the target get a value closer to one compared to those which are away from the target assuming a lower value. These values are determined in relative terms in the sense that they represent the unitary position of the States within the available scale of gap between the minimum achieved and the target. Such positioning conveys a linear distance, which does not differentiate a given distance between two States which have performed well compared with another pair of States which are far from achieving the target.

The difference in progress between the three front runner States is three points. This is perhaps not similar to the distance between the performing States of Telangana and Andhra Pradesh, which too have a three-point difference. Such comprehension of achievement is limited as regards to comparing States, let alone designating them into four categories.

What can be done?

Finally, the process of aggregation adopted to present the summary index of compliance with the targets being a simple average assumes that each of the goals as well as the corresponding set of indicators are equally important and can substitute for each other. This also overlooks the aspect of inter-dependence of various goals, although it is upfront stated in the exercise. To ensure minimum robustness of this measure, a geometric average would have served towards avoiding perfect substitutability of one goal with the other. It means achievement of progress in one goal cannot compensate for compromise in another. While this exercise serves as a report card of performance of States as regards compliance with the SDGs, its scientific adequacy is compromised with arbitrariness that presents a stereotypical pattern of performance rather than bringing out surprises.

The choice of indicators representing specific goals need not necessarily be guided by availability but also their explicit independence from one another. This may help in making a uniform set of indicators for each of the goals with proper representation without duplication. On the whole, this performance assessment may not be misleading, but it does not help us understand the relative significance of compliance in some goals that helps in compliance of the other. Thus, performance assessment of SDGs while overlooking the strict interdependence of them may not be rewarding.

Mental Health

Binge-watching robot spots dementia (The Hindu:20190212)

<https://www.thehindu.com/sci-tech/health/binge-watching-robot-spots-dementia/article26240379.ece>

Seeing is learning: Robbie after watching the episodes of Emmerdale.

Robbie can recognise signs of depression and aggressive behaviour

A team led by an Indian-origin researcher has trained a robot to spot the signs of dementia by watching popular British soap opera, Emmerdale, with the hope to help people living with the neurodegenerative condition.

Robbie, developed by researchers at Edge Hill University in the U.K., watched over 13 episodes of Emmerdale, featuring the storyline of dementia sufferer Ashley Thomas.

The robot can now spot signs of depression and aggressive behaviour in the hope that robots like him will be able to help people living with the condition, researchers said.

“There are 46.8 million people living with dementia and this is set to rise to 115.4 million in 2050,” said Ardhendu Behera, senior lecturer at the university, who led the project with three students.

“Depression and aggressive behaviour are often the most upsetting and challenging symptoms for those closest to the person living with the condition,” Mr. Behera said.

Currently, the only ways to monitor and manage dementia is by direct observation — which is labour intensive, time consuming and can be costly from a care perspective, researchers said.

Another way is to use wearable bio-sensing devices, they said.

“Monitoring and recognition is still very much in its infancy and we believe Robbie is the first robot to use vision-based recognition to recognise four behaviours; aggressive, depressive, happy and neutral,” Mr. Behera said.

The team chose the Emmerdale episodes as the Alzheimer’s Society described them as a ‘realistic portrayal’ of the condition, researchers said. They broke the 35-minute-long episodes featuring Ashley into 65,082 images, teaching Robbie to recognise facial expressions and body language.

Neurology

Simple drug formula regenerates brain cells (Medical News Today:20190212)

<https://www.medicalnewstoday.com/articles/324410.php>

Researchers have taken a step forward in the quest for a pill that can recover brain function lost through strokes, brain injuries, and conditions such as Alzheimer's disease.

Researchers generated new neurons using a simple molecular cocktail.

Scientists at Pennsylvania State University (Penn State) in State College converted glial cells into functioning neurons by using a combination of just four small molecules.

Glial cells, among other things, can support and protect neurons, which are cells that perform the mental functions of the brain.

In a new study paper that now features in the journal Stem Cell Reports, the researchers describe how their converted neurons survived for more than 7 months in laboratory cultures.

The new neurons also showed an ability to work like normal brain cells. They formed networks and communicated with each other using both electrical and chemical signals.

Glial cells proliferate after injury

Senior study author Gong Chen, who is a professor of biology at Penn State, explains that neurons do not regenerate when brain tissue becomes damaged.

"In contrast," he adds, "glial cells, which gather around damaged brain tissue, can proliferate after brain injury."

In their study paper, he and his team explain how glial cells form scars that protect the neurons from further injury.

Alzheimer's: Could targeting this mechanism reverse memory decline?

A new genetic approach that can repair broken connections between neurons could help create treatments that restore memory function in Alzheimer's disease.

However, due to their constant presence, glial scars also block the growth of new neurons and the transmission of signals between them.

Previous attempts to restore neuron regeneration by removing the glial scars have had "limited success," note the study authors.

Prof. Chen believes that "the best way to restore lost neuronal functions" is to create new neurons out of the glial cells close to the dead neurons.

Reprogramming astrocytes into neurons

In previous work, Prof. Chen and his team had shown that it was possible to "chemically reprogram" a type of glial cell called astrocytes into neurons using nine small molecules in a certain sequence. However, when they explored how to translate the method from the laboratory to the clinic, they realized that it was too complicated.

So, the aim of the new study was to find a smaller combination of the molecules that can reprogram astrocytes into functioning neurons in a more straightforward way.

The researchers tested hundreds of combinations until they found an effective formula comprising "four core drugs."

"By using four molecules," explains first study author Jiu-Chao Yin, who is a graduate student in biology at Penn State, "that modulate four critical signaling pathways in human astrocytes, we can efficiently turn human astrocytes — as many as 70 percent — into functional neurons."

The team also tested the effect of dropping one of the four molecules from the formula. No three-drug formula, however, was as effective as the four-drug version. In fact, the best three-drug combination was 20 percent less effective than the four-drug one.

Using only one of the molecules was not enough to convert the astrocytes into neurons.

Simple alternative to gene therapy

Prof. Chen and his colleagues have been working on regenerating neurons for some time. Before turning to chemical reprogramming, they had experimented with gene therapy.

However, they concluded that a gene therapy approach, which could cost around \$500,000 per person, would be too expensive. In addition, delivery of gene therapy requires sophisticated, advanced techniques and expertise.

Prof. Chen explains that the main advantage of the chemical programming approach is that "a pill containing small molecules could be distributed widely in the world, even reaching rural areas without advanced hospital systems."

Also, he and his team found that injecting the four drugs into adult mice increased the generation of new brain cells in the hippocampus, which is a region of the brain that plays a role in memory.

A lot more work ahead

The study authors point out that the findings are just one step forward toward neuron regeneration in a pill. There is still a lot of work to do in developing the right formula, particularly regarding the "packaging and delivery" of the small molecules.

As well as confirming their effectiveness, the researchers also need to explore the side effects and safety of the drugs.

They are confident, however, that their new four-drug formula will one day realize its potential as a straightforward treatment for people who lose neuronal function through brain injury, stroke, and neurodegenerative conditions such as Alzheimer's disease.

"My ultimate dream is to develop a simple drug delivery system, like a pill, that can help stroke and Alzheimer's patients around the world to regenerate new neurons and restore their lost learning and memory capabilities."

Breast cancer

Breast cancer screening saved over 27,000 lives in 2018 (Medical News Today:20190212)

<https://www.medicalnewstoday.com/articles/324408.php>

An analysis of mortality rates related to breast cancer from 1989 until 2018 indicates that breast cancer screening, paired with access to better treatment, has significantly improved the health outcome for women with this type of cancer over the past few decades.

Since 1989, breast cancer-related death rates have fallen exponentially, primarily due to screening and better care.

The American Cancer Society report that, on average, a woman's risk of developing breast cancer during her lifetime is approximately 12 percent.

Furthermore, the Society estimate that about 268,600 women in the United States will receive a diagnosis of invasive breast cancer in 2019.

However, they also note that although breast cancer incidence rates have increased by 0.4 percent each year, mortality rates due to this disease have been declining.

A new report put together by investigators from the University of Colorado School of Medicine in Aurora, the Duke University Medical Center in Durham, NC, and the Department of Radiology and Rogel Cancer Center of the University of Michigan Health System in Ann Arbor, MI indicates that in 2018 expected mortality rates related to breast cancer dropped by approximately half, compared with the situation almost 3 decades ago.

The report — which appears in the journal *Cancer* of the American Cancer Society — also argues that this significant decrease is mostly due to women getting timely breast cancer screening (mammograms). It is also due to better access to improved therapy once they receive a diagnosis.

Over 27,000 fewer deaths in 2018

The research team looked at the breast cancer mortality rates and other related data collected from women in the U.S. who were between 40–84 years old from 1989 to 2018. Researchers first recorded this information through the Surveillance, Epidemiology, and End Results program of the National Cancer Institute.

Since 1990, the researchers explain, breast cancer mortality rates have decreased between 1.8 to 3.4 percent per year.

Oolong tea extract may stave off breast cancer

Could drinking oolong tea help prevent breast cancer?

More specifically, the investigators found that there were between 20,860–33,842 fewer breast cancer deaths in 2012 alone. This is probably due to greater access to mammograms and better cancer treatment.

In 2015 there were 23,703–39,415 fewer deaths, and as recently as 2018, there were 27,083–45,726 fewer breast cancer deaths in the U.S.

In terms of mortality rates, there was a 38.6–50.5 percent reduction in 2012, a 41.5–54.2 percent reduction in 2015, and an estimated 45.3–58.3 percent decrease in breast cancer death rates in 2018.

Overall, from 1989 onwards, cancer screening and access to better treatment led to between 384,046 and 614,484 fewer related deaths overall.

'Get screened annually from age 40'

"Recent reviews of mammography screening have focused media attention on some of the risks of mammography screening, such as call-backs for additional imaging and breast

biopsies, downplaying the most important aspect of screening — that finding and treating breast cancer early saves women's lives," notes first author Dr. R. Edward Hendrick.

"Our study provides evidence of just how effective the combination of early detection and modern breast cancer treatment have been in averting breast cancer deaths," he adds.

Hendrick also points out that, at present, only about half of women aged 40 and over receive breast cancer screening in the U.S. He hopes the current findings will motivate more individuals in this at-risk group to seek regular checks.

"The best possible long-term effect of our findings would be to help women recognize that early detection and modern, personalized breast cancer treatment saves lives and to encourage more women to get screened annually starting at age 40."

Dr. R. Edward Hendrick

Study co-author Dr. Mark Helvie expresses a belief that, in the future, advances in breast cancer screening methods and treatment will continue to lead to a decrease in mortality rates.

However, he stresses, "While we anticipate new scientific advances that will further reduce breast cancer deaths and morbidity, it is important that women continue to comply with existing screening and treatment recommendations."

Parkinson's disease

What role does the gut play in Parkinson's disease? (Medical News Today:20190212)

<https://www.medicalnewstoday.com/articles/324402.php>

A new study, published in a special supplement of the Journal of Parkinson's Disease, reviews what we know so far about the link between the gut and Parkinson's disease. Homing in on the gut may help diagnose the condition much sooner and slow down its progression.

Some people have gastrointestinal problems years before they develop any motor symptoms of Parkinson's.

According to the National Institutes of Health (NIH), around 50,000 people in the United States receive a diagnosis of Parkinson's disease each year.

Currently, around 500,000 people have the condition.

By the time physicians diagnose it, most brain cells that are affected in Parkinson's have already died.

For this reason, it is more difficult to slow down the progressive disease.

Therefore, researchers have recently been looking into ways to detect the condition much earlier, going beyond the movement-related neurons and neurotransmitters in their search for a culprit.

In their exploration of the causes behind Parkinson's disease, researchers have zeroed in on the gut.

More and more studies are suggesting that the condition starts in the gastrointestinal system — at least for some people who have digestive symptoms years before any motor symptoms develop.

Some studies have even shown that the alpha-synuclein protein, which is abnormal in Parkinson's disease, travels from the brain to the stomach via the vagus nerve, a major component of the parasympathetic nervous system.

So, what is the current state of existing research on the gut-brain connection in Parkinson's? A new review, entitled "The gut and Parkinson's disease: Hype or hope?" set out to investigate.

Dr. Filip Scheperjans, Ph.D. — of the Department of Neurology at the Helsinki University Hospital in Finland — is the first and corresponding author of the review.

How the gut can help diagnose Parkinson's

Dr. Scheperjans explains the motivation for the study, saying, "Better understanding the role of the gut in [Parkinson's disease] will help us to understand the origin of the disease and to improve treatments."

"There is accumulating evidence that at least in some [...] patients, the origin of the disease may lie in the gut with possible involvement of abnormal protein aggregates, local inflammation, and the gut microbiome."

Parkinson's: Dietary compound moves toxic protein from gut to brain

A herbicide, together with a chemical present in food, can produce Parkinson's-like symptoms in rodents.

"Therefore, further studies into the role of the gut in [Parkinson's] are important and may reveal new possibilities for diagnosis and treatment," he explains.

In their review, Dr. Scheperjans and colleagues identified four main takeaways:

While scientists have found deposits of alpha-synuclein in the enteric nervous system of people with Parkinson's, more research is needed to determine whether these protein

aggregates are "biochemically similar to the ones found in the brain." The authors continue, "[T]his might be critical in our understanding of the role of the gut in [Parkinson's disease] pathogenesis."

Intestinal hyperpermeability might be what triggers alpha-synuclein aggregation in the enteric nerves. More research is now required to find out whether people with Parkinson's also have higher intestinal permeability.

Studies that have utilized immunohistochemistry to study alpha-synuclein aggregates in the enteric nervous system yielded mixed results, so scientists must develop newer, alternative ways of detecting alpha-synuclein deposits in the gut.

Large multicenter studies involving people with Parkinson's, as well as animal studies, are necessary to identify the mechanisms that underlie the connection between the gut and Parkinson's. Human studies should look at the composition of the gut microbiota both before and after Parkinson's diagnosis.

Furthermore, the study authors appreciate that in the next few decades, the gut microbiota will play a special role in the development of new therapies for Parkinson's. Such therapies can include dietary changes, the use of pro- and prebiotics, and fecal transplants.

"Our understanding and appreciation of the importance of the gut-brain connection in [Parkinson's] have grown rapidly in recent years," says Dr. Scheperjans.

"We are confident that the coming 2 decades of microbiome-gut-brain-axis research will see an even accelerated development in this area that will reshape our understanding of the pathogenesis of [Parkinson's]," he adds.

Dr. Patrik Brundin, Ph.D. — editor-in-chief of the Journal of Parkinson's Disease — also comments on the findings. "The gut has emerged as one of the new frontiers in [Parkinson's] research," he says. "We predict there will be several advances regarding the gut in the coming 20 years."

"Changes in the gut might be utilized to diagnose [Parkinson's] earlier; new therapies targeting these changes might slow disease progression, reduce constipation, and improve gut function in patients who have already been diagnosed."

Dr. Patrik Brundin, Ph.D.

Obesity

Weight loss: How important is eating breakfast? (Medical News Today:20190212)

<https://www.medicalnewstoday.com/articles/324376.php>

One new study finds no evidence to suggest that eating the first meal of the day may help with weight loss.

How important is eating breakfast for people trying to lose weight?

Every single day, people around the world sit at the table to enjoy what many consider to be "the most important meal of the day."

Breakfast traditions vary: those from the United States and United Kingdom tend to favor eggs and bacon, whereas those in Italy and France often prefer croissants.

Regardless of what people choose to eat for breakfast, many people see this meal as an essential part of the day.

This is because it provides the body with the nutrients and energy needed to start the day. That said, the debate about breakfast's role in health has been ongoing for years.

Breakfast myths debunked

A new study — the findings of which appear in the BMJ — saw no evidence to support the idea that eating breakfast is a good strategy for weight loss, or that skipping breakfast has the opposite effect.

Some previous studies have suggested that eating breakfast may help a person maintain a healthy weight. A team of Japanese researchers, for example, found that skipping breakfast was more strongly connected with obesity than eating dinner within 3 hours of bedtime.

Mindfulness 'has huge potential' as a weight loss strategy

Can mindfulness techniques help us shed those extra pounds?

We should interpret these findings with caution, however, due to study limitations. For example, the researchers did not take into consideration the types of food that people consumed for breakfast. Individual lifestyle and food choices play a significant role in weight management.

To find out more about the links between breakfast and weight change, a team of researchers from Monash University in Melbourne, Australia, analyzed 13 randomized controlled trials — mostly from the U.S. and U.K. — from the past 28 years.

The findings debunked two myths:

Firstly, they found no evidence to suggest that eating breakfast may help with weight loss due to the efficient burning of calories early on preventing overeating later in the day.

Secondly, they found that skipping breakfast was not linked to people feeling hungrier.

No 'one-size-fits-all' approach

Participants were habitual and nonhabitual breakfast eaters with different body weights. The team found that the total daily energy intake was higher in people who ate breakfast than in those who skipped it. Also, people who skipped breakfast were, on average, 0.44 kilograms (0.97 pounds) lighter.

Some trials focused on the effects of either eating or skipping breakfast and any changes to body weight. Others looked at the impact that breakfast has on daily energy intake. Given the varying quality of the studies, the study authors warn that we should interpret the findings with caution.

Despite some limitations, the study authors explain that the evidence gathered by all the studies conducted to date does not support diets for adults that include eating breakfast as a good strategy for weight loss. The authors conclude:

"Although eating breakfast regularly could have other important effects, caution is needed when recommending breakfast for weight loss in adults, as it may have the opposite effect."

In an opinion piece linked to the study, Tim Spector — who is professor of genetic epidemiology at King's College London in the U.K. — reminds us that eating or skipping breakfast may have different effects on different people because we all have a unique metabolism.

He says, "No 'one size fits all,' and prescriptive slow-moving diet guidelines filled with erroneous information look increasingly counterproductive and detract from important health messages."

"While waiting for guidelines to change, no harm can be done in trying out your own personal experiments in skipping breakfast," Prof. Spector concludes.

Diabetes

Diabetes: Could a pill replace insulin injections? (Medical News Today:20190212)

<https://www.medicalnewstoday.com/articles/324389.php>

Researchers have developed a new pill that can deliver insulin straight into the stomach wall. Will injections soon be a thing of the past?

An easy-to-swallow pill could replace daily insulin injections.

When type 2 diabetes is at an advanced stage, the pancreas is unable to produce enough insulin. At this point, doctors usually recommend daily insulin injections to manage blood sugar levels.

However, research has cited a phobia of needles as one of the most significant barriers preventing those with type 2 diabetes from taking insulin.

By radically changing the delivery of insulin, Robert Langer, a professor at the Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology (MIT), Cambridge, and his colleagues hope to make insulin treatment more palatable.

The research features in the journal Science.

Using microneedles to deliver the drug

The team came up with an innovative new design for a pill that consists of a biodegradable capsule containing an insulin microneedle. When a person swallows the pill, insulin injects directly into the stomach wall.

As the stomach lining does not have any pain receptors, the researchers believe that this way of delivering the drug will be free of pain.

"We are really hopeful that this new type of capsule could someday help diabetic patients and perhaps anyone who requires therapies that can now only be given by injection or infusion," explains Langer.

Microneedles are millimeter-size needles that scientists originally developed to penetrate the skin without causing pain.

The microneedle in this study had two components: a tip comprising compressed insulin, which penetrates the stomach wall, and a biodegradable shaft, which holds the tip in place.

Type 2 diabetes: Gut bacteria may influence drug effectiveness

New research investigates whether a person's microbiome can limit how well a drug works.

Inside the capsule, the needle attaches to a compressed spring and a disc that the team created using sugar. The sugar disc dissolves when the capsule enters the stomach. By doing this, it releases the spring, allowing the microneedle to inject into the stomach wall.

This mechanism sounds deceptively simple, but what stops the microneedle from firing off in the wrong direction and missing the stomach wall?

"As soon as you take it, you want the system to self-right so that you can ensure contact with the tissue," says Giovanni Traverso, an assistant professor at Brigham and Women's Hospital, Harvard Medical School, Boston, MA.

Taking inspiration from tortoise shells

The solution came from an unlikely place. Native to Eastern and Southern Africa, the leopard tortoise, which has a high domed shell, is an expert at self-righting.

Inspired by the tortoise shell's shape, the researchers used computer modeling to design the capsule. Irrespective of how the capsule lands in the stomach, its self-righting ability ensures that the needle makes contact with the stomach wall.

"What's important is that we have the needle in contact with the tissue when it is injected," explains Alex Abramson, a graduate student at MIT and first author of the study. "Also, if a person were to move around or the stomach were to growl, the device would not move from its preferred orientation."

After its injection into the stomach wall, the microneedle tip dissolves, and insulin enters the bloodstream. In the current study, this took roughly an hour, but the researchers can control the rate to some extent through the way in which they prepare the microneedle.

So far, the researchers have shown that they can deliver doses of up to 5 milligrams using this system.

The capsule itself passes through the digestive system without causing any side effects.

Further work on the capsule system is ongoing. The team is hopeful that this new design could spell the end for a host of drugs that it is currently only possible to deliver by injection.

"Our motivation is to make it easier for patients to take medication, particularly medications that require an injection. The classic one is insulin, but there are many others."

Giovanni Traverso

Heart Disease

This novel method can predict fatal heart disease: Study (New Kerala:20190212)

<https://www.newkerala.com/news/read/100012/this-novel-method-can-predict-fatal-heart-disease-study.html>

New York, Feb 10: A novel method called stress cardiac MRI can not only diagnose heart disease, but can also predict which cases are potentially fatal, suggests a new research.

The study showed that predicting mortality is a key requirement for the technology to be more widely used.

In addition, results suggest cardiac magnetic resonance (CMR) has the potential to be a non-invasive, non-toxic alternative to stress echocardiograms, catheterisations and stress nuclear exams in identifying the severity of the coronary artery disease.

"We've known for some time that CMR is effective at diagnosing coronary artery disease, but it's still not commonly used and represents less than one per cent of stress tests used in this country," said senior author Robert Judd, co-director of the Duke Cardiovascular Magnetic Resonance Center in the US.

For the study, researchers analysed data from more than 9,000 patients who underwent CMR.

The findings, published in JAMA Cardiology, showed that for patients without any history of heart disease and at low-risk based on traditional clinical criteria, those with an abnormal CMR scan were 3.4 times more likely to die compared to patients with a normal CMR scan.

For the entire patient population, there was a strong association between an abnormal stress CMR and mortality, even after adjusting for patient age, sex and cardiac risk factors, the team found.

While non-invasive cardiac stress testing is a cornerstone in the clinical management of patients with known or suspected coronary artery disease, CMR works as well or better than other exams at identifying heart wall motion, cell death and the presence of low blood flow, said the study.

Furthermore, the technology does not require any radiation exposure, which is essential in nuclear stress tests.

"With the findings from this study suggesting that stress CMR is effective in predicting mortality, we provide a strong basis for a head-to-head study between stress CMR and other modalities," Judd noted.

Marijuana edibles pose major risk to elderly patients with cardiovascular disease (New Kerala :20190212)

<https://www.newkerala.com/news/read/100361/marijuana-edibles-pose-major-risk-to-elderly-patients-with-cardiovascular-disease.html>

Washington D.C, Feb 11 : With marijuana being legalised across North America, there is a changing perception that sees people believing that weed is the safest recreational drug.

However, those assumptions are now challenged in an article in the Canadian Journal of Cardiology that examine the story of a patient who developed chest pain and myocardial ischemia after consuming most of a marijuana lollipop.

Speaking about it, expert Alexandra Saunders said, Marijuana can be a useful tool for many patients, especially for pain and nausea relief. At the same time, like all other medications, it does carry risk and side effects. In a recent case, inappropriate dosing and oral consumption of marijuana by an older patient with stable cardiovascular disease resulted in distress that caused a cardiac event and subsequent reduced cardiac function.

According to the report, a 70-year-old man with stable coronary artery disease, taking appropriate cardiac medications at most of a lollipop infused with 90 mg of THC (delta-9-tetrahydrocannabinol) to relieve pain and help sleep. However, it led him to have a potentially serious heart attack.

He consumed a much larger dose than the 7 mg that is typically ingested by smoking a single joint or taking the 2.5 mg starting dose of dronabinol (Marinol), a synthetic THC marketed for nausea and appetite stimulation in AIDS and cancer patients.

While the patient had smoked marijuana in his youth, he had not done so since the THC content of the substance had increased significantly from three percent to 12 per cent. He was also not familiar with the time-delayed and extended effect of oral THC dosing.

The cardiac event was likely triggered by unexpected strain on his body from anxiety and fearful hallucinations caused by the unusually large amount of THC he ingested. After the psychotropic effects of the drug wore off, and his hallucinations ended, his chest pain stopped.

Notably, a number of earlier case reports have described the association between cannabis use and acute cardiovascular (CV) adverse events, including myocardial infarction, stroke, arrhythmias, and sudden death.

Speaking about it, the editorial author Neal L. Benowitz said, The legalisation of cannabis has considerable public support but also raises public health concerns.

Benowitz added, some users may benefit from the social and medical effects, but others will be at risk for adverse health outcomes. Little information has been disseminated to patients or healthcare providers about cannabis use in older patients, and in particular those with cardiovascular disease. For better or worse, providing advice and care to such patients who are using cannabis is now necessary for the provision of optimal medical care to these patients.

Drug Addiction

Women more vulnerable to drug addiction: Study (New Kerala:20190212)

<https://www.newkerala.com/news/read/100062/women-more-vulnerable-to-drug-addiction-study.html>

New York, Feb 10: Women's hormonal cycles may not only make them prone to drug addiction but are also affected by triggers that lead to relapse, new research has found.

When fertility-related hormone levels are high, females learn faster, make stronger associations to cues in their environment and are more inclined to seek rewards, according to a study published in the journal *Neuropsychopharmacology*.

Women represent a particularly vulnerable population, with higher rates of addiction following exposure to drugs, said researcher Erin Calipari, Assistant Professor at Vanderbilt University in the US.

"Women becoming addicted to drugs may be a fundamentally different process than men," she said. "It's important to understand this, because it's the first step in developing treatments that are actually effective," Calipari said.

The next step, she said, would be to figure out specifics of how hormonal shifts affect women's brains and, ultimately, develop medications that could help override those.

In this study, male and female rats were allowed to dose themselves with cocaine by pushing a lever, with a light set up to come on during dosing.

That's similar to the environmental cues, such as drug paraphernalia, present when humans are taking drugs.

When hormone levels were high, female rats made stronger associations with the light and were more likely to keep pushing the lever as much as it took to get any amount of cocaine.

Females were willing to "pay" more in the presence of these cues to get cocaine, the findings showed.

The results are transferable to humans through behavioural economic analysis, which uses a complicated mathematical equation with values for the most and least a subject will do to get a payoff, said the study.