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मानसिक रोग

मानसिक रोगों के बचाव का माध्यम भी है नृत्य (Amar Ujala:20190430)

<https://www.amarujala.com/delhi/191556566143-delhi-news>

मानसिक रोगों से बचाव का माध्यम है नृत्य

नई दिल्ली। अंतरराष्ट्रीय नृत्य दिवस के मौके पर सोमवार को डीएवी रिसर्च सोसायटी फॉर हेल्थ द्वारा रोहिणी में एक कार्यक्रम का आयोजन किया गया। इस मौके पर नृत्य के जरिये विभिन्न रोगों से बचाव के बारे में चर्चा हुई। कार्यक्रम में शामिल हुए आयुर्वेद विशेषज्ञ और मनोचिकित्सक डॉ. आरपी पाराशर ने कहा कि नृत्य न केवल एक महान कला और व्यवसाय है, बल्कि शारीरिक और मानसिक रोगों से बचाव और उपचार का माध्यम भी है। उन्होंने बताया कि नृत्य के दौरान पूरे शरीर का व्यायाम हो जाता है, जिससे न केवल डायबिटीज, हाई ब्लडप्रेसर, एल्जाइमर्स, डिमेंसिया, दिल के रोग और मांसपेशियों की जकड़न व कमजोरी जैसे रोगों से बचा जा सकता है, बल्कि इन रोगों का सफलतापूर्वक उपचार भी किया जा सकता है। ब्यूरो

स्वास्थ्य संबंधी मुद्दों पर की चर्चा

नई दिल्ली। स्वस्थ भारत (न्यास) के चौथे स्थापना दिवस के मौके पर इंदिरा गांधी राष्ट्रीय कला केंद्र में सोमवार को कार्यक्रम का आयोजन किया गया। कार्यक्रम में स्वास्थ्य संबंधी मुद्दों पर चर्चा की गई।

इंदिरा गांधी राष्ट्रीय कला केंद्र के अध्यक्ष रामबहादुर राय ने कहा कि हमारे यहां स्वास्थ्य के क्षेत्र में जो खिलवाड़ हो रहे हैं, उनमें भारत अभियान व न्यास स्वास्थ्य के प्रति लोगों को जागरूक करने का प्रयास कर रहा है। उन्होंने कहा कि लोगों को सस्ती दवा कहां मिलेगी और कैसे मिलेगी, इस तरह की तमाम जानकारियों से अवगत कराने का काम स्वस्थ भारत कर रहा है। ब्यूरो

रीढ़ की हड्डी के दर्द

क्या आप भी रीढ़ की हड्डी के दर्द से हैं परेशान, कहीं वजह ये तो नहीं (Dainik Jagran:20190430)

<https://www.jagran.com/news/national-symptoms-of-compressive-myelopathy-jagran-special-19178702.html>

सर्वाइकल स्पॉन्डिलाइटिस आदि रीढ़ से संबंधित समस्याओं के कारण जब स्पाइनल कैनाल सिकुड़ जाता है तब स्पाइनल कॉर्ड पर दबाव बढ़ जाता है।

नई दिल्ली [जागरण स्पेशल]। कम्प्रेसिव मायलोपैथी नामक बीमारी रीढ़ (स्पाइन) की हड्डियों को संकुचित कर उन्हें विकारग्रस्त कर देती है, लेकिन अब इस समस्या का इलाज संभव है... कम्प्रेसिव मायलोपैथी नामक बीमारी आमतौर पर पचास साल की उम्र के बाद शुरू होती है परंतु कई कारण ऐसे भी हैं जिनकी वजह से यह कम उम्र में भी परेशानी का कारण बन सकती है। कमर से लेकर सिर तक जाने वाली रीढ़ की हड्डी के दर्द को ही स्पॉन्डिलाइटिस कहते हैं। यह ऐसा दर्द है जो कभी नीचे से ऊपर और कभी ऊपर से नीचे की ओर बढ़ता है।

कारणों पर नजर

सर्वाइकल स्पॉन्डिलाइटिस आदि रीढ़ से संबंधित समस्याओं के कारण जब स्पाइनल कैनाल सिकुड़ जाता है, तब स्पाइनल कॉर्ड पर दबाव बढ़ जाता है। इसके अलावा अन्य कई कारण हैं। जैसे रूमेटिक गठिया के कारण गर्दन के जोड़ों को नुकसान पहुंच सकता है, जिससे गंभीर जकड़न और दर्द पैदा हो सकता है। रूमेटिक गठिया आमतौर पर गर्दन के ऊपरी भाग में होता है। स्पाइनल टीबी, स्पाइनल ट्यूमर, स्पाइनल संक्रमण भी इस रोग के प्रमुख कारण हैं। इसके अलावा कई बार खेलकूद, डाइविंग या

किसी दुर्घटना के कारण रीढ़ की हड्डी के बीच स्थित डिस्क (जो हड्डियों के शॉक एब्जॉर्वर के रूप में कार्य करती है) अपने स्थान से हटकर स्पाइनल कैनाल की ओर बढ़ जाती है, तब भी संकुचन की स्थिति बन जाती है।

जांच

इस बीमारी का सबसे सटीक विवरण देता है एमआरआई। इस जांच के द्वारा रीढ़ की हड्डी में संकुचन और इसके कारण स्पाइनल कॉर्ड पर पड़ने वाले दबाव की गंभीरता को स्पष्ट रूप से देखा जा सकता है। इसके अलावा कई बार रीढ़ की हड्डी में ट्यूमर होने पर कंप्यूटर टोमोग्राफी (सीटी) स्कैन, एक्स-रे आदि से भी जांच की जा सकती है।

ऑपरेशन के बगैर उपचार

रोग के प्रारंभिक मामलों में दर्द और सूजन कम करने वाली दवाओं और गैर-ऑपरेशन तकनीकों से इलाज किया जाता है। गंभीर दर्द का भी कॉर्टिकोस्टेरोयड से इलाज किया जा सकता है, जो पीठ के निचले हिस्से में इंजेक्ट की जाती है। रीढ़ की हड्डी को मजबूती और स्थिरता देने के लिए फिजियोथेरेपी की जाती है। अगर इन गैर-ऑपरेशन विधियों से लाभ नहीं होता तो हम सर्जरी कराने का सुझाव दे सकते हैं। ऐसी अनेक सर्जिकल तकनीकें हैं जिनका इस रोग के इलाज में इस्तेमाल किया जा सकता है।

सर्जिकल उपचार

कम्प्रेसिव मायलोपैथी की समस्या के स्थायी इलाज के लिए प्रभावित स्पाइन की वर्टिब्रा की डिस्कम्प्रेसिव लैमिनेक्टॉमी (एक तरह की सर्जरी) की जाती है ताकि स्पाइनल कैनाल में तंत्रिकाओं के लिए ज्यादा जगह बन सके और तंत्रिकाओं पर से दबाव दूर हो सके।

यदि डिस्क हर्नियेटेड या बाहर की ओर निकली हुई होती है तो स्पाइनल कैनाल में जगह बढ़ाने के लिए उन्हें भी हटाया जा सकता है, जिसे डिस्केक्टॉमी कहते हैं।

कभी-कभी उस जगह को भी चौड़ा करने की जरूरत पड़ती है, जहां तंत्रिकाएं मूल स्पाइनल कैनाल से बाहर निकलती हैं। इस स्थान को फोरामेन कहते हैं। इस सर्जिकल प्रक्रिया को फोरामिनोटॉमी कहा जाता है।

जानें लक्षणों को

रीढ़ की हड्डी नसों की केबल पाइप जैसी होती है। जब यह पाइप संकुचित हो जाती है, तो नसों पर दबाव से ये लक्षण उत्पन्न हो सकते हैं ...

सुन्नपन या झुनझुनी का अहसास होना

गर्दन, पीठ व कमर में दर्द और जकड़न

लिखने, बटन लगाने और भोजन करने में समस्या

गंभीर मामलों में मल-मूत्र संबंधी समस्याएं उत्पन्न होना

चलने में कठिनाई यानी शरीर को संतुलित रखने में परेशानी

कमजोरी के कारण वस्तुओं को उठाने या छोड़ने में परेशानी

बचाव व रोग का उपचार

व्यायाम इस रोग से बचाव के लिए आवश्यक है।

देर तक गाड़ी चलाने की स्थिति में पीठ को सहारा देने के लिए तकिया लगाएं।

कंप्यूटर पर अधिक देर तक काम करने वालों को कम्प्यूटर का मॉनीटर सीधा रखना चाहिए।

कुर्सी की बैक पर अपनी पीठ सटा कर रखना चाहिए। थोड़े-थोड़े अंतराल पर उठते रहना चाहिए। उठते-बैठते समय पैरों के बल उठना चाहिए।

दर्द अधिक होने पर चिकित्सक की सलाह से दर्द निवारक दवाओं का प्रयोग किया जा सकता है।

फिजियथेरेपी द्वारा गर्दन का ट्रैक्शन व गर्दन के व्यायाम से आराम मिल सकता है।

हाई ब्लड प्रेशर

High BP वाले हो जाएं सावधान, काम के दबाव के कारण मौत का खतरा तीन गुना ज्यादा (Dainik Jagran:20190430)

<https://www.jagran.com/news/national-suffering-from-high-bp-patients-have-increased-death-risk-if-exposed-to-work-stress-and-insomnia-jagran-special-19178483.html>

काम के दबाव में लोग नींद भी पर्याप्त नहीं लेते। काम का दबाव और नींद की कमी मिलकर एक खास तरह का खतरा पैदा करती है जो जानलेवा साबित हो सकती है।

नई दिल्ली [जागरण स्पेशल]। अगर आप भी हाई ब्लड प्रेशर के शिकार हैं, तो काम का ज्यादा दबाव लेने से बचें। ताजा शोध के मुताबिक, काम के दबाव और अनियमित नींद के कारण हाई बीपी से मौत का खतरा तीन गुना तक बढ़ सकता है। यह खतरा इतने चुपचाप और धीरे-धीरे आगे बढ़ता है कि इसे Silent Killer भी कहा जा सकता है।

जर्मनी स्थित टेक्निकल यूनिवर्सिटी ऑफ म्यूनिख के प्रोफेसर कार्ल हिंज लाडविग ने कहा, 'नींद अपनी ऊर्जा को पुनः संजोने का तरीका है। अगर काम का दबाव हो, तो अच्छी नींद उसके दुष्प्रभाव को कम करती है। दुर्भाग्य से ऐसा हो नहीं पाता। काम के दबाव में लोग नींद भी पर्याप्त नहीं लेते। यह दबाव और नींद की कमी मिलकर हाई बीपी को ज्यादा जानलेवा बना देते हैं।' शोध के दौरान 25 से 65 साल की उम्र के 2 हजार ऐसे लोगों को शामिल किया गया, जिन्हें दिल से जुड़ी कोई बीमारी या डायबिटीज की परेशानी नहीं थी। इस दौरान बिना दबाव के अच्छी नींद लेने वालों और दबाव व कम नींद लेने वालों का तुलनात्मक अध्ययन किया गया।

हाई ब्लड प्रेशर क्या है?

आपको पता होगा कि हमारे शरीर में मौजूद रक्त नसों में लगातार दौड़ता रहता है और इसी रक्त के माध्यम से शरीर के सभी अंगों तक ऊर्जा और पोषण के लिए जरूरी ऑक्सीजन, ग्लूकोज, विटामिन्स, मिनेरल्स आदि पहुंचते हैं। ब्लड प्रेशर उस दबाव को कहते हैं, जो रक्त प्रवाह की वजह से नसों की दीवारों पर पड़ता है। आमतौर पर ये ब्लड प्रेशर इस बात पर निर्भर करता है कि हृदय कितनी गति से रक्त को पंप कर रहा है और रक्त को नसों में प्रवाहित होने में कितने अवरोधों का सामना करना पड़

रहा है। मेडिकल गाइडलाइन्स के अनुसार 130/80 mmHg से ज्यादा रक्त का दबाव हाइपरटेंशन या हाई ब्लड प्रेशर की श्रेणी में आता है।

हाई ब्लड प्रेशर का कारण

हाइपरटेंशन या उच्च रक्तचाप दो तरह का होता है...

प्राइमरी हाइपरटेंशन - प्राइमरी हाइपरटेंशन ज्यादातर युवाओं को होता है और इसका कोई खास कारण नहीं होता है बल्कि लगातार अनियमित जीवनशैली की वजह से ये धीरे-धीरे समय के साथ हो जाता है। इस तरह के ब्लड प्रेशर का कारण बहुत आम होता है जैसे: मोटापा नींद की कमी अत्यधिक गुस्सा करना मांसाहारी भोजन का अधिक सेवन तनाव तैलीय पदार्थों और अस्वस्थ खान-पान।

सेकेंडरी हाइपरटेंशन - सेकेंडरी हाइपरटेंशन वो है जो शरीर में किसी रोग के कारण या किसी स्थिति के कारण हो जाता है। आमतौर पर सेकेंडरी हाइपरटेंशन के निम्न कारण होते हैं। ऑब्स्ट्रक्टिव स्लीप एपनिया किडनी का कोई रोग एंड्रीनल ग्लैंड ट्यूमर थायरॉइड की समस्या अनुवांशिक कारणों से नसों में कोई खराबी गर्भनिरोधक दवाओं का अधिक सेवन, सर्दी-जुकाम और दर्द की दवाओं का अधिक सेवन शराब, सिगरेट, ड्रग्स आदि का नशा करने से।

हाई ब्लड प्रेशर के लक्षण

उच्च रक्तचाप के प्रारंभिक लक्षण में रोगी के सिर के पीछे और गर्दन में दर्द रहने लगता है। कई बार इस तरह की परेशानी को वह नजरअंदाज कर देता है, जो आगे चलकर गंभीर समस्या बन जाती है। आमतौर पर हाई ब्लड प्रेशर के ये लक्षण होते हैं।

तनाव होना सिर में दर्द सांसों का तेज चलना और कई बार सांस लेने में तकलीफ होना सीने में दर्द की समस्या आंखों से दिखने में परिवर्तन होना जैसे धुंधला दिखना पेशाब के साथ खून निकलना सिर चकराना थकान और सुस्ती लगना नाक से खून निकलना नींद न आना दिल की धड़कन बढ़ जाना।

कई बार कुछ लोगों में उच्च रक्तचाप से संबंधित कोई भी लक्षण नजर नहीं आता। उन्हें इस बारे में चेकअप के बाद ही जानकारी होती है।

हाई ब्लड प्रेशर के लक्षण दिखाई न देना किडनी और हार्ट के लिए घातक हो सकता है इसलिए अगर आपको लगातार थकान या आलस जैसी सामान्य समस्या भी है, तो अपना ब्लड प्रेशर जरूर जांच करवाएं।

हाइपरटेंशन का दिल पर प्रभाव

यह हृदय को रक्त पहुंचाने वाली धमनियों को सख्त अथवा मोटा कर सकता है। जिससे उनकी चौड़ाई कम हो जाती है। परिणामस्वरूप हृदय को पर्याप्त मात्रा में रक्त नहीं मिल पाता और एन्जिनिया, हार्ट डिजीज और कोरोनेरी हार्ट डिजीज होने का अंदेशा काफी बढ़ जाता है। इससे हार्ट अटैक हो सकता है। वास्तव में जिस व्यक्ति को एक्यूट हार्ट अटैक आया हो, उन्हें पहले से हाइपरटेंश होता है, जो चोरी से अचानक सामने आता है और फिर उसका इलाज किया जाता है। हाइपरटेंशन से दिल की मांसपेशियां असामान्य रूप से मोटी हो जाती हैं, जिसे बायें निलय अतिवृद्धि कहा जाता है। जो भविष्य में कार्डियोवस्कुलर डिजीज के कारण मौत होने का बड़ा कारक होता है।

नमक लें कम

डॉक्टर के अनुसार ब्लड प्रेशर के बढ़ने का सबसे बड़ा कारण है, अधिक मात्रा में नमक का सेवन, जिससे कि हृदय की समस्याएं होने का खतरा बढ़ जाता है। अगर आप समय रहते अपने खान-पान पर ध्यान देंगे तो आगे जाकर आपको किसी प्रकार की समस्या नहीं आयेगी।

सीढ़ियों का प्रयोग करें

प्रतिदिन व्यायाम करना हृदय स्वास्थ्य के लिए अच्छा होता है। ऑफिस में लिफ्ट का प्रयोग करने के बजाय सीढ़ियों का प्रयोग करें।

कोलेस्ट्रॉल के स्तर पर नियंत्रण

ऐसे आहार लें जिनसे शरीर में कोलेस्ट्रॉल का स्तर नियंत्रित रहे क्योंकि कोलेस्ट्रॉल का स्तर हृदय स्वास्थ्य को प्रभावित करता है। सेब और संतरे जैसे फल, प्याज़, ब्रोकली जैसी सब्जियां और मछली का सेवन करें।

Child mortality

What is behind Indians' life expectancy going up? (Hindustan Times:20190430)

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

An improvement in healthcare along with a decline in infant and child mortality have contributed to this progress

In the Puranas, there is a reference to a demoness named Jataharini. In Ayurveda, however, the same word means a group of diseases. Here, I mean the demoness Jataharini, as it was in Markandeya Purana. There, she was a demoness who snatched away newborns. She was also mischievous. She would take away a baby from one house to another, and from there to another, to create confusion. In the process, she would eat up the every third baby that she grabbed.

If you happen to survive till the age of 70 in India, you are not that worse off compared to an average American

The Jataharini story effectively tells us that the infant mortality rate then was 333 per 1,000. Some four centuries ago, these were levels throughout the world. Lack of data doesn't allow us to get a firm handle on infant mortality rates (IMRs) in pre-Independent India. Around 1900, India's IMR would have been around 200. Some advanced countries had much lower IMRs. In 1900, Portugal had an IMR of around 150. This was more or less the level in most parts of England and Wales in second half of the 19th century. In more advanced countries, declines in IMR happened after 1900. In 1951, India's IMR declined to 146. Latest figures — an IMR of 34 — are for 2016. Sure, there are interstate variations. In Assam, Madhya Pradesh, Odisha, Rajasthan and Uttar Pradesh, IMR is still stands above 40. But it's declining all across the country, and is true for every state.

In 1940, Minoo Masani dealt with the subject in her book, Our India. According to the book, the life expectancy in 1940 was 27 years. Masani had used numbers from the 1931 Census. By the time the Censuses of 1941 and 1951 came out, India's life expectancy had increased to 32 years. (Naturally, India in 1931 and 1941 was geographically different from the India of 1951). In Census 2011, it went up to 67 years, with, understandably, some difference between the life expectancy of males and females. In 2019, numbers are bound to go a bit higher, which we will know only in Census 2021. If this is an indicator, India surely fares better in 2019 than in 1951.

Why has life expectancy increased? It may have many reasons: sanitation, sewage treatment, clean drinking water, immunisation, control of smallpox, tuberculosis, malaria, better medical treatment and so on. We normally use the expression life expectancy (in years), but we really mean life expectancy at birth. As we survive longer, life expectancies increase. These

numbers emerge from what demographers call life-tables. These are estimated, and are not direct Census figures. Ignoring the male/female difference, this is what such numbers look like today: Roughly, life expectancy at birth is 68.7 years; at age one, it is 71.6 years; at age five, it 72.1 years; at age 10, 72.4 years, at age 12, 72.8 years; at age 30, 73.5 years; at age 40, 74.4 years; at age 50, 75.8 years; at age 60, 78.1 years; and at age 70, 81.5 years.

In 2016, the average life expectancy in the US was 78.7 years. If you happen to survive till 70, you are not that worse off compared to an average American. To make an apples versus apples comparison, at age 70, life expectancy in US is around 85 years. Even then, the Indian is not that worse off. If you survive till that age, nature of disease and access to medical services are probably the same as in more advanced countries. The average Indian is worse off at earlier ages. Since Independence, life expectancy at birth has increased in India, which is pretty much clear.

Has it increased because of declines in infant mortality (that is, children below one year of age) and child mortality (that is, children below the age of five) or has it increased because of health improvements elsewhere in the age spectrum too? It's probably a combination of both, and one is asking for a decomposition (or break-up) between two kinds of effects. Unfortunately, the answer is complicated since it depends on the stage of demographic transition. In the initial stages, most increases in life expectancy are attributable to mortality declines for infants and children. In later stages of demographic transition, increases are more attributable to mortality declines across the age spectrum.

Diabetes

Cases of diabetes among youngsters on the rise (Hindustan Times:20190430)

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

India is already in the grip of the silent epidemic of diabetes, especially when it comes to its metros such as Delhi-NCR, which are seeing the highest number of diabetes cases. According to a surveillance study by CARRS, 25.2% of adults in Delhi already suffer from diabetes while another 47.6% have prediabetes. In total, threefourth of the city's population has diabetes or prediabetes, which is an alarmingly high figure.

This is a shocking reality, in the light of the fact that especially youngsters are increasingly getting affected by diabetes, particularly in the economically-active age range, resulting in human capital losses and high medical expenditures. Most new patients with type 2 diabetes

are now being seen to be in the 21-40 age group, according to the author's experience. Also, an increasing number of cases are being seen in children and adolescents, for a disease which was previously considered as one of old age. In this condition, complications are mainly dependent on the duration as most people will still be middle-aged by the time they will end up with complications like kidney failure.

There may be multiple factors responsible for such a hike in diabetes and other lifestyle diseases. Faulty dietary habits, lack of exercise, obesity, stress as well as environmental pollution are some of them. However, improved awareness of diabetes and its risks, along with suggested dietary changes and an active lifestyle can help in slowing this epidemic. Also, early screening and intensive treatment can help prevent long-term complications related to diabetes. In fact, sustainable diabetes reversal is also possible with early intensive lifestyle and weight loss in overweight individuals.

There is an urgent need for the implementation of sustainable health policies on multiple levels. There is a need to actively involve policymakers in the government, healthcare providers, school teachers, social workers, private sector professionals and many others. The government should work on areas of food labelling, regulation on junk food advertising or even increasing taxes on sugarrelated food items along with increasing awareness of diabetes and its complications. Schools and offices can focus on both healthy eating and physical activities. Blood sugar screening camps and easy access to blood sugar checks at public areas such as metro stations can help early detection of the disease across many asymptomatic individuals. Local Resident Welfare Associations (RWA) and NGOs can be actively involved in such screening camps to educate people at large.

Special diabetes clinics in every hospital with a team of diabetes specialists or endocrinologists and diabetes educators are the need of the hour.

The author of the article, Dr Deepak Khandelwal MD, DM (AIIMS), is a consulting endocrinologist at Maharaja Agrasen Hospital, Punjabi Bagh, Delhi.

Blood Donation

A campaign to build 'blood relation' (The Hindu:20190430)

<https://www.thehindu.com/news/national/other-states/a-campaign-to-build-blood-relation/article26985389.ece>

Several groups working to alleviate shortage in blood banks during summer

Philanthropic organisations in Odisha's Berhampur have come together to motivate new groups of blood donors to reach the Red Cross blood bank in the city every alternate day during summer months to alleviate the shortage of blood during this period.

Most blood banks in Odisha, including the Red Cross blood bank on MKCG Medical College campus in Berhampur, face serious shortage during summer because of a misconception among the general public that blood donation during this period can cause extreme weakness.

"This myth has no scientific basis. Despite awareness efforts, people are still reluctant to donate blood during summer months," said J. Suresh of Association of Voluntary Blood Donors. College examinations and holidays during summer also add to the problem, he said.

Joint campaign

Organisations like Berhampur Sabuja Bahini, Anchaika Bikash Parishad, Marwari Mahila Samity, Nature Lovers Odisha and Boxing Odisha have now launched a campaign to encourage blood donors to reach in groups to the blood bank. They have named their movement "Let us build a blood relation".

"Our aim is to ensure standard stock of blood in the bank every day during summer months. We also want to remove the fear in the minds of several donors about donation in summer, and encourage them to visit the blood bank for donation instead of waiting for mega camps to be set up for the purpose," said Sibaram Panigrahy of the BSB.

According to medical experts, a healthy man can donate blood once in three months and a healthy woman once in six months.

According to E.T. Rao, founder president of AVBD, Odisha, between June and February an average of 3,000 units of blood is collected every month by the Red Cross blood bank, Berhampur. During April and May, however, the collection drops to around 1,500 units. Blood donation camps also fail to collect required units of blood. Because of this, the blood bank faces problems in arranging blood for around 600 Thalassaemia and sickle cell patients who have to undergo transfusion at regular intervals.

The organisations have decided to motivate a new group of at least 20 donors every alternate day to visit the blood bank. On April 28, the number of donors rose to 29.

Malnutrition

For a malnutrition-free India (The Hindu:20190430)

<https://www.thehindu.com/opinion/op-ed/for-a-malnutrition-free-india/article26984216.ece>

Effective monitoring and implementation of programmes are required for the country to achieve its goal by 2022

In this election season, it is important to keep promises made not just to voters, but also those made to improve the lives of children, the future of the nation. Despite programme commitments since 1975, such as creating Integrated Child Development Services and national coverage of the mid-day meal scheme, India continues to grapple with a high rate of undernutrition. Improving nutrition and managing stunting continue to be big challenges, and they can be addressed only with an inter-sectoral strategy.

Stunting has lifelong consequences on human capital, poverty and equity. It leads to less potential in education and fewer professional opportunities. According to the National Family Health Survey (NFHS)-4, India has unacceptably high levels of stunting, despite marginal improvement over the years. In 2015-16, 38.4% of children below five years were stunted and 35.8% were underweight. India ranks 158 out of 195 countries on the human capital index. Lack of investment in health and education leads to slower economic growth. The World Bank says, “A 1% loss in adult height due to childhood stunting is associated with a 1.4% loss in economic productivity”. Stunting also has lasting effects on future generations. Since 53.1% of women were anaemic in 2015-16, this will have lasting effects on their future pregnancies and children. The situation further worsens when infants are fed inadequate diets.

Ambitious goals

The aim of the National Nutrition Strategy of 2017 is to achieve a malnutrition-free India by 2022. The plan is to reduce stunting prevalence in children (0-3 years) by about three percentage points per year by 2022 from NFHS-4 levels, and achieve a one-third reduction in anaemia in children, adolescents and women of reproductive age.

This is an ambitious goal, especially given that the decadal decline in stunting from 48% in 2006 to 38.4% in 2016 is only one percentage point a year. This promise calls for serious alignment among line ministries, convergence of nutrition programmes, and stringent monitoring of the progress made in achieving these goals.

Tackling child malnutrition

The data available on stunting tell us where to concentrate future programmes. Stunting prevalence tends to increase with age and peaks at 18-23 months. Timely nutritional interventions of breastfeeding, age-appropriate complementary feeding, full immunisation,

and Vitamin A supplementation have been proven effective in improving outcomes in children. However, data show that only 41.6% children are breastfed within one hour of birth, 54.9% are exclusively breastfed for six months, 42.7% are provided timely complementary foods, and only 9.6% children below two years receive an adequate diet. India must improve in these areas. Vitamin A deficiency can increase infections like measles and diarrhoeal diseases. About 40% of children don't get full immunisation and Vitamin A supplementation. They must be provided these for disease prevention.

Variations across States and districts

According to NFHS-4 data, India has more stunted children in rural areas as compared to urban areas, possibly due to the low socio-economic status of households in those areas. Almost double the prevalence of stunting is found in children born to mothers with no schooling as compared to mothers with 12 or more years of schooling. Stunting shows a steady decline with increase in household income. The inter-generational cycle of malnutrition is to be tackled with effective interventions for both mother (pre- and post-pregnancy) and child, to address the high burden of stunting.

In terms of geographical regions, Bihar (48%), Uttar Pradesh (46%) and Jharkhand (45%) have very high rates of stunting, while States with the lowest rates include Kerala, and Goa (20%). While nutrition has improved across all States, inter-State variabilities remain extremely high. The most significant decline has been noted in Chhattisgarh (a 15 percentage point drop in the last decade). Thus, the government can take lessons from Chhattisgarh. The least progress has been made in Tamil Nadu.

A study by the International Food Policy Research Institute shows that stunting prevalence varies across districts (12.4-65.1%), and almost 40% districts have stunting levels above 40%. U.P. tops the list, with six out of 10 districts having the highest rates of stunting.

Looking at this data, it is imperative to push for convergence of health and nutrition programmes right from pregnancy until the child reaches five years of age. This is doable. India must adopt a multi-pronged approach in bringing about socio-behavioural change. What is really needed is effective monitoring and implementation of programmes to address malnutrition.

Drug-resistant diseases

Drug-resistant diseases could kill 10 million a year by 2050' (The Hindu:20190430)

<https://www.thehindu.com/sci-tech/health/drug-resistant-diseases-could-kill-10-million-a-year-by-2050/article26984512.ece>

They claim 7,00,000 lives annually, says UN report

Drug-resistant diseases could cause 10 million deaths each year by 2050, warned the UN Ad Hoc Interagency Coordinating Group on Antimicrobial Resistance in a report released on Monday.

It added that by 2030, antimicrobial resistance could force up to 24 million people into extreme poverty.

“Currently, at least 7,00,000 people die each year due to drug-resistant diseases, including 2,30,000 people who die from multidrug-resistant tuberculosis,” said the report.

It also noted that more and more common diseases, including respiratory tract infections, sexually transmitted infections and urinary tract infections, are becoming untreatable; lifesaving medical procedures are becoming riskier, and food systems are getting increasingly precarious.

“Antimicrobial resistance is one of the greatest threats we face as a global community. This report reflects the depth and scope of the response needed to curb its rise and protect a century of progress in health,” said Amina Mohammed, UN deputy secretary-general.

The report noted that the world is already feeling the economic and health consequences as crucial medicines become ineffective. Without investment from countries in all income brackets, future generations will face the disastrous impacts of uncontrolled antimicrobial resistance.

It has now recommended that countries prioritise national action plans to scale-up financing and capacity-building efforts, put in place stronger regulatory systems and support awareness programs for responsible and prudent use of antimicrobials by professionals in human, animal and plant health and invest in ambitious research and development for new technologies to combat antimicrobial resistance.

Drug-resistant diseases to kill 10 mn each year by 2050: UN (The Indian Express:20190430)

<https://indianexpress.com/article/india/drug-resistant-diseases-to-kill-10-mn-each-year-by-2050-un-5701617/>

The most glaring red flag in India came some years ago when doctors in Mumbai claimed to have encountered some tuberculosis cases that were totally drug-resistant (TDR).

UN calls for Yemen agreement to be implemented without delay

united nations, un, united nations summit, un general assembly, environment, climate change, global warming, global environmental regulations, emmanuel macron, paris climate agreement, poverty, world news, indian express news

The expert group was convened at the request of world leaders after the first UN High-Level Meeting on Antimicrobial Resistance in 2016.

Painting a dire picture of a future with drug resistance, a UN report has warned that drug-resistant diseases could cause 10 million deaths each year by 2050 and damage to the economy could be as catastrophic as the 2008-2009 global financial crisis. According to the report, by 2030, antimicrobial resistance could force up to 24 million people into extreme poverty.

“The economic impact of uncontrolled antimicrobial resistance would also be catastrophic. As drug-resistant pathogens spread, health care expenditures would increase dramatically, and sustainable food and feed production – including global trade in food, feed and livestock – will increasingly be at risk,” said the UN ad hoc Interagency Coordinating Group (IACG) on Antimicrobial Resistance (AMR).

The expert group was convened at the request of world leaders after the first UN High-Level Meeting on Antimicrobial Resistance in 2016. “The World Bank estimates that by 2030 up to 24 million people could be forced into extreme poverty, mainly in low-income countries, and annual economic damage as a result of antimicrobial resistance could be comparable to the shocks experienced during the 2008-2009 global financial crisis – but with no end in sight,” stated the report.

In recent years, drug resistance has manifested itself in the emergence of superbugs that have enzymes such as the New Delhi metallo beta lactamase-I that makes them resistant to a large number of broad range antibiotics. And the aggressive and tenacious fungus *Candida auris* that required special cleaning of a room in Mount Sinai Hospital, where a person infected with the fungus had been admitted for 90 days. Mount Sinai, it was reported, had to rip out ceiling tiles in a bid to get rid of the *Candida* infestation in the room.

“Antimicrobial resistance is one of the greatest threats we face as a global community. This report reflects the depth and scope of the response needed to curb its rise and protect a century of progress in health. It rightly emphasises that there is no time to wait and I urge all stakeholders to act on its recommendations and work urgently to protect our people and planet and secure a sustainable future for all,” said Amina Mohammed, UN Deputy Secretary-General and Co-Chair of the IACG.

The most glaring red flag in India came some years ago when doctors in Mumbai claimed to have encountered some tuberculosis cases that were totally drug-resistant (TDR). Though that claim did not get official sanction from health agencies such as the WHO, it did lead to a new classification of XDR (extreme drug-resistant) TB.

The latest AMR report estimates that currently, at least 700,000 people die each year due to drug-resistant diseases, including 230,000 people who die from multidrug-resistant tuberculosis. India had the second highest total number of estimated MDR TB cases (99,000) in 2008, after China.

“Although antimicrobial resistance can develop naturally, misuse and overuse of antimicrobial agents in humans, terrestrial and aquatic animals, plants and crops are greatly accelerating its development and spread. In human health, poor medical prescribing practices and patient adherence to therapies, weak regulation and oversight including over-the-counter sales, and the proliferation of substandard and falsified antimicrobials are all contributing to the problem,” stated the report.

“The use of antimicrobials to promote growth and routinely prevent disease in healthy animals and crops without appropriate indication and in the absence of good agricultural practices to prevent infectious diseases on farms are further contributing to the development and spread of antimicrobial resistance.”

The UN warned that more and more common diseases, including respiratory tract infections, sexually transmitted infections and urinary tract infections are becoming untreatable and lifesaving medical procedures are becoming much riskier. “We are at a critical point in the fight to protect some of our most essential medicines. This report makes concrete recommendations that could save thousands of lives every year,” said Dr Tedros Adhanom Ghebreyesus, Director-General of the World Health Organisation and Co-Chair of the IACG.

Healthcare

Desire to provide equitable healthcare will reinforce to voters that they matter to politicians (The Indian Express:20190430)

<https://indianexpress.com/article/opinion/columns/lok-sabha-elections-pradhan-mantri-jan-arogyo-yojana-pmjay-healthcare-system-india-poverty-5701511/>

Equity in healthcare will unequivocally impact everyone, most of all the ones who are at risk of diving deeper into poverty from a catastrophic illness.

A country ranked 112/164 in per capita income must be cognisant of such disparities and health expenditures that push individuals and families, some in middle and upper middle class, deeper into poverty.(Illustration: CR Sasikumar)

As THE COUNTRY VOTES for a new government, equitable and accessible healthcare is being talked about. The next big promise of healthcare for the poor is pitched to be the Pradhan Mantri Jan Arogya Yojana (PMJAY). The proposed plan, while facilitating access to a subset of the population, will cost roughly \$1.7 billion. However, the PMJAY, which promises health through insurance for millions of vulnerable Indians, will do little to strengthen our public sector while redirecting spending to the unregulated private sector. As the decibel level from the campaign soars, it is time to place comprehensive healthcare reform on the agenda for change. With only weeks left for voting to conclude, it is critical to understand the role of healthcare in alleviating poverty and improving human development.

An average Indian lives about 10 years less than an American. Since Independence, India's life expectancy, which was 31 years, has increased about by six months every year. While it stands at 68 today, it is strikingly non-representative of any particular state. An average Keralite lives to around 75 years, while an Assamese resident lives to about 63 years. Therefore, an Indian national could live 10 years more or less simply based on his/her geography. A country ranked 112/164 in per capita income must be cognisant of such disparities and health expenditures that push individuals and families, some in middle and upper middle class, deeper into poverty. We ought to be enhancing our existing infrastructure, promoting and reinforcing excellence in care within government centres rather than diverting public funds into private health enterprises. A catastrophic illness is often the inflexion point for many households in India, and they may be well above the government cut off for the PMJAY scheme.

The Health Survey and Development Committee or the Bhore committee from 1943 established the framework for our healthcare system. Barring some iterations, the fundamental design has remained the same. However, the past few decades have seen stagnant public-sector spending along with the exponential growth of the private sector. While total spending on health as a portion of India's GDP stands around 3.9 per cent (World

Bank data), public spending as part of our GDP stands just above 1 per cent, with a proposed plan to double it by 2025. Consequently, out-of-pocket expenditure for health stands at a worrying 70 per cent, notwithstanding the government provisioning universal health coverage. In stark contrast, the Kenyan government spends about 3.5 per cent of its GDP on health while Brazil and the US spend 8.9 per cent and 16.8 per cent respectively. In terms of per capita cost, India spends about Rs 1,112 per person (about \$15), while Switzerland and the US spend \$6,944 and \$11,193 respectively. There is a clear prioritisation away from those who need healthcare services the most, in terms of spending patterns in the last few decades.

Another critical area of concern adversely impacting the public health sector is the dearth of human resources. Unfortunately, any consideration of alternate human resources such as nurse practitioners have failed to gather momentum. The rural health statistics report show that 8 per cent of primary health centres (PHCs) function without a doctor, 38 per cent without a lab technician and 22 per cent without a pharmacist. At the community health centre level, there was a considerable shortage of specialist allopathic doctors. The Higher-Level Expert Group (HLEG) for universal health coverage put forth by the then Planning Commission recommended a doctor-population ratio of 1:1,000, identical to WHO recommendations.

Interestingly, India's national average stands at 1:921 for allopathy and AYUSH (ayurveda, yoga and naturopathy, unani, siddha and homoeopathy) combined, and 1:1,586 for allopathy alone. While six states — Delhi, Karnataka, Kerala, Goa, Punjab and Tamil Nadu — have numbers better than the national average, several states including Jharkhand (1:8,180), Haryana (1:6,037) and Uttar Pradesh (1:3,767) have a horrific doctor-population ratio. In 2004, the Ministry of Health and Family Welfare suggested that each government doctor catered to roughly 15,980 people. This is particularly relevant to an estimated 68 per cent of individuals in rural India, who depend on the government machinery to access quality health services. A 4:1 distribution of health workers favouring urban India adds to this inequity and serves to expose how blatantly non-representative our national metrics are.

Public spending should also be geared to improving the quality of medical education. Technology should be brought in as a tool to enhance the student experience. The growth of the private sector has witnessed an explicit rise in the number of private medical colleges. Sadly, the distribution of many of these colleges follow the urban landscape, likely for financial incentives. During this time, public medical colleges, while growing in modest numbers, suffer from dilapidated conditions in terms of funding, infrastructure, quality of academic scholars, in-house research and the lack of a larger ecosystem that prioritises world-class medical education and research. Consequently, the QS world rankings fail to feature a single Indian medical institution in the top 100 medical schools despite having 579 odd medical colleges that produce about 52,000 doctors each year.

The exodus of our health personnel (both trainees as well as graduates) has a deleterious impact on our health system as well. One-fourth of all medical providers across disciplines in the US are foreign born and many are from India. In the long term, improving medical education and academic scholarship within public institutions and a significant expansion of

private, not-for profit, and philanthropically-enabled medical schools and public health schools will help create a better healthcare system. It will limit students flocking to other nations for better education, and hopefully bring about a reversal. A critical area of growth would be creating space for not-for-profit medical institutions of international standards to not only close the academic and infrastructure gaps but also to address the exploding human resource crisis in the health sector.

The need for world class institutions of excellence and breaking into world rankings is not just a matter of pride for a country of 1.3 billion people, it is critical to creating a workforce that is adept in meeting the challenges of tomorrow. There is an economic benefit from the mitigation of loss of billions of dollars to overseas institutions. It will prevent the debt that many students and families incur in their quest for higher education as well as the disruption of life from unstable geopolitical climate in the country of immigration. It will certainly address our own human resource crisis in health services. Re-directing public funding and re-invigorating our public sector to create an equitable, sustainable healthcare system for all remains our top priority and our greatest challenge.

There are numerous challenges that face the average voter this election. Our diversity in language, religion, culture and demographics pose intrinsic challenges of their own. Yet, equity in healthcare will unequivocally impact everyone, most of all the ones who are at risk of diving deeper into poverty from a catastrophic illness. Equitable healthcare will restore social justice and will reinforce to the average voter that s/he matters and does so equally in the eyes of the government

Sleep Disorder

Why does insomnia worsen distress of unpleasant memories? (Medical News Today:20190430)

<https://www.medicalnewstoday.com/articles/325064.php>

For people with insomnia, sleep does not reduce the shame of an embarrassing experience. For them, the distress does not fade; in fact, it can get worse with recall.

Why does insomnia make it hard to move past distressing experiences?

This was one of the findings of a new study from the Netherlands Institute for Neuroscience in Amsterdam.

The study also revealed how brain differences between people with and without insomnia might explain it.

A new paper in the journal *Brain* describes how, using MRI scans, the researchers examined brain activity in people with and without insomnia.

The participants underwent the scans as they relived embarrassing experiences from decades ago plus a recent memory from just a week ago.

The scans showed that, when the group without insomnia relived old embarrassing memories, the brain circuits they activated were "markedly different" to those they activated as they recalled more recent embarrassing memories.

However, when those with insomnia recalled old embarrassing memories, the brain circuits they activated overlapped with the circuits that were active when they relived new embarrassing memories.

The overlaps occurred particularly in the anterior cingulate cortex (ACC), which connects parts of the brain involved with emotional and cognitive processing.

First study author Rick Wassing says that in people with insomnia, sleep does not help alleviate emotional distress. "In fact," he adds, "their restless nights can even make them feel worse."

Insomnia and 'karaoke-style' study

According to figures from the American Sleep Association, about 30% of adults in the United States report experiencing "short-term issues" relating to insomnia, while 10% report persistent insomnia.

Experiencing difficulty falling asleep is not the only or the main symptom of insomnia.

Napping may be as good as drugs for lowering blood pressure

Research from Greece suggests that taking a nap in the middle of the day could help reduce blood pressure.

Other symptoms — such as moodiness, a lack of energy in the daytime, irritability, and struggling to focus on work — may also occur.

The authors note in their study paper that although the term insomnia suggests that the issues relate only to sleep, a diagnosis requires other measures, too — including many that relate to "daytime complaints" and "round-the-clock disturbances."

The results concerning the recent embarrassing event formed part of an earlier study, in which the team had examined emotional distress in people with and without insomnia as they recalled performing a "karaoke-style" solo song.

The scientists had invited the participants to sing, without musical accompaniment, while wearing headphones that prevented them from hearing themselves. This made it difficult for them to find the right pitch.

About a week later, just before undergoing MRI scans, the participants — as well as some of the researchers — listened to the solo singing recordings.

On the first playback, all of the participants reported having feelings of shame and embarrassment. However, after a night of sleep, those who slept well reported feeling much less distressed.

Those with insomnia did not: Their emotional distress was even more marked after a restless night.

Emotional circuits fail to disengage

The new findings suggest that the ACC, which helps regulate emotion, also has an important role in insomnia.

Previously, when looking for causes of insomnia, scientists had tended to focus on the parts of the brain that control sleep.

The study authors posit that people with insomnia have genes in their ACC that do not activate correctly during rapid eye movement sleep. This stops the brain from disengaging emotional circuits from the memories of distant distressing events.

"Brain research now shows that only good sleepers profit from sleep when it comes to shedding emotional tension."

Rick Wassing

Mental Health

How religious experiences may benefit mental health (Medical News Today:20190430)

<https://www.medicalnewstoday.com/articles/325061.php>

A survey of thousands of people suggests that mystical experiences positively affect a person's mental health, regardless of whether they are naturally occurring or a result of psychedelic drugs.

New research suggests that having deep religious experiences may significantly improve people's mental health.

Religion may have a wide range of health benefits, research suggests.

For instance, a study that appeared last year found that religious believers tend to live 4 years longer, on average, while another study found that attending religious ceremonies slashes the risk of premature death among seniors.

Emerging research is also looking into the mental health benefits of various psychedelic substances.

For example, several studies have shown that psilocybin — the psychoactive compound in so-called magic mushrooms — has the potential to treat severe depression without the side effects of conventional antidepressants.

Now, a new study is bringing these research topics together, as a team of psychologists sets out to examine the effects of naturally occurring and drug-induced mystical experiences on mental health.

Roland Griffiths, Ph.D., a professor of psychiatry and behavioral sciences at the Johns Hopkins University School of Medicine in Baltimore, MD, led the team to look at the effects of spontaneous and chemically induced religious experiences among thousands of participants.

Prof. Griffiths and colleagues published their findings in the journal PLOS One.

Studying religious and mystical experience

The researchers asked 4,285 study participants to answer a survey in which they had to describe their "God encounter experiences and mystical experiences."

The surveys asked the participants about their experiences with the "God of [their] understanding," a "Higher Power, Ultimate Reality, or an Aspect or Emissary of God (e.g., an angel)." The survey also inquired about how the participants felt after the experience and how it changed their lives, if at all.

Approximately 69% of the participants were male, aged 38 years on average, and the vast majority of the respondents were white. The study looked at mystical experiences that occurred both naturally and as a result of taking psychedelics, using two different surveys.

What to know about avoiding depression

Here are 7 tips for avoiding a mental health crisis.

A total of 3,476 participants answered the psychedelics survey, and 809 answered the non-drug survey.

Specifically, in the former group, 1,184 participants took "magic mushrooms," 1,251 took lysergic acid (LSD), 435 took ayahuasca, and 606 reported taking N,N-dimethyltryptamine (DMT).

"Most participants reported vivid memories of the encounter experience, which frequently involved communication with something having the attributes of being conscious, benevolent, intelligent, sacred, eternal, and all-knowing," report the researchers.

'God encounters' may improve mental health

Overall, the study found that most participants who had "God encounter experiences" reported positive effects on their mental health.

Namely, the mystical experiences improved their life satisfaction, purpose, and meaning, and these positive changes lasted for decades after the experience.

In fact, about 75% of all respondents (in both the drugs and no-drugs groups) said the experience was "among the most personally meaningful and spiritually significant lifetime experiences, with moderate to strong persisting positive changes" to their mental health.

Furthermore, 70% of participants in the drugs group said they had a decreased fear of death as a result of the experiences, whereas 57% of the non-drug participants reported the same feeling.

Approximately 15% of the participants in both groups said the experience was "the single most psychologically challenging experience of their lifetime."

In the non-drug group, 59% of the respondents described their experience as meeting "God" or "an emissary of God," whereas 55% of the psychedelics users chose to describe it as an "ultimate reality."

The lead researcher comments on the findings, saying, "Experiences that people describe as encounters with God or a representative of God have been reported for thousands of years, and they likely form the basis of many of the world's religions."

"[A]lthough modern Western medicine doesn't typically consider 'spiritual' or 'religious' experiences as one of the tools in the arsenal against sickness, our findings suggest that these encounters often lead to improvements in mental health."

Prof. Roland Griffiths, Ph.D.

The researcher stresses the fact that their research says nothing about the existence of a higher being. "We want to be clear that our study looks at personal experiences and says nothing about the existence or nonexistence of God."

Furthermore, the scientists caution that people should not use psychedelic drugs without professional guidance, as there are various psychological dangers to misusing these substances, in addition to legal risks.

Breast Cancer

Is it better to 'contain' rather than destroy cancer? (Medical News Today:20190430)

<https://www.medicalnewstoday.com/articles/325062.php>

A new approach to cancer therapy suggests that doctors may be able to keep cancer in check by placing metastatic cells in a state of dormancy, thus blocking them from giving rise to new tumors. A recent study in mice has found that an existing drug could effectively contain metastatic breast cancer cells.

A minimally toxic drug could help stop cancer from metastasizing, but clinical trials may be a long way off.

"Most cancer therapy is targeted with the idea that we want to kill all of the cancer cells. Rid the body of cancer," says Michael Wendt, an assistant professor at Purdue University, in West Lafayette, IN.

However, the researcher — who specializes in the treatment of metastatic cancer — explains that this approach may not be feasible.

"Recently," Wendt notes, "there are lots of studies that suggest that we're never going to be able to do that. Cancer cells evolve so fast that they will always find a way to overcome any type of therapy."

Because of this, Wendt and a team of scientists from Purdue University and other academic institutions have decided to experiment with a different approach to treating cancer: that of safely containing it and blocking it from developing and spreading.

"An emerging concept in cancer treatment is that maybe we shouldn't try to kill all of the cancer cells, but try to keep them in a low state that doesn't generate any kind of symptoms. A sort of dormancy, if you will," Wendt explains.

In the new study — the findings of which appear in the journal *Cancer Research* — the investigators used an existing drug to stop metastatic breast cancer cells from giving rise to new tumors by keeping them in a sleep-like state.

Existing drug can block stray cancer cells

The researchers zeroed in on the drug fostamatinib, which is currently approved for the treatment of immune thrombocytopenia, an autoimmune disease characterized by a low platelet count in the blood.

The team explains that their research in mice has shown that fostamatinib is also able to contain metastatic cancer cells and stop them from developing into full tumors, causing further damage.

First author Aparna Shinde, Ph.D. — a former graduate student at Purdue and now a researcher at AbbVie, a biopharmaceutical company — in collaboration with Wendt and the team, looked at whether they could block metastatic breast cancer cells.

That is because, Shinde explains, breast cancer cells can spread to other parts of the body, where they can enter a latent state for many years, escaping detection.

Breast cancer: Reducing this amino acid could make drugs more effective

Researchers explore new ways to boost the effectiveness of breast cancer therapy.

Once awakened, these metastatic cells give rise to new and sometimes more aggressive and less treatable tumors, marking the return of the cancer a long time after the treatment of the primary tumors.

"After you have breast cancer, you always get this dissemination of cancer cells. Breast cancer is no longer considered a curable disease — it is now considered a chronic disease because 10 or 20 years later, you can get secondary tumors because of the metastasizing cells," says Shinde.

Such cells often do not respond to existing therapies, and for this reason, Shinde and team thought that it could be more useful to try to contain the cells and block their development, rather than attempt to destroy them altogether.

"So that's the goal we are exploring now," Wendt observes, noting that the study authors' research question has been, "Instead of trying to eliminate those disseminated cells, how do we keep them in that dormant state?"

'Very difficult' to organize clinical trials

Shinde, Wendt, and colleagues went on to experiment with fostamatinib because they knew that the drug inhibits the activity of spleen tyrosine kinase, a protein present in latent metastatic cancer cells.

Working with mouse models of breast cancer, the researchers found that, when they treated metastatic cancer cells with this drug, those cells remained contained and did not give rise to new tumors.

"This is great for us because this is a drug with low toxicity. It's designed for people with chronic disease so that they can take [it] for a long time. So we think fostamatinib is a perfect candidate for this kind of years-long lock-'n'-block type of approach."

Aparna Shinde, Ph.D.

"We think this is a good candidate to move forward for a trial to see if we can stabilize dormancy. If [splen tyrosine kinase] is expressed in other cancers, this could apply to those as well," Shinde hypothesizes.

However, while the researchers are happy about their current findings and the promising implications for future therapeutic strategies, they note that it may be difficult to test this approach further, in clinical trials.

"Our work is unique because there hasn't been much research that tests treatments in a postsurgical metastatic setting," says Wendt.

"But you can imagine that [setting up] clinical trials for this kind of thing is going to be very difficult because, technically, the patients are in remission and disease-free," he adds.

"We suspect that these patients have these dormant cancer cells disseminating through their bodies, but we don't have a way to detect those right now," he goes on, suggesting that the road toward marking fostamatinib as a new therapeutic option for cancer may be long and difficult.

Obesity

How might obesity affect the brain? (Medical News Today:20190430)

<https://www.medicalnewstoday.com/articles/325054.php>

The link between obesity and the brain is a fascinating topic that scientists have only recently begun to explore. New research adds important pieces to the puzzle.

Researchers have used MRI scans to examine the brains of people living with obesity.

From the size and functionality of the brain to specific neuronal circuits, recent studies have brought to light important aspects of the connection between obesity and the brain.

For instance, researchers published a study earlier this year that found a link between obesity around the stomach area and smaller brain size — specifically, lower gray matter volume.

The findings of another recent study showed that the brain's prefrontal cortex — an area that is important for complex thinking, planning, and self-control — is less active in people who tend to overeat, which may lead to obesity and weight gain.

Finally, research that appeared only last month identified an array of neurons that can curb overeating when they become active.

A new study now adds to this mounting body of evidence, shedding further light on the connection between obesity on the one hand and differences in brain structure and form on the other.

Dr. Ilona A. Dekkers, from the Leiden University Medical Center in the Netherlands, led a team of researchers who used cutting-edge MRI scanning technology to understand the link between obesity and brain structure.

Dr. Dekkers and team reported smaller gray matter volumes in people with obesity, thus solidifying previous research findings. They also found connections with the brain's form and structure, called its morphology.

The researchers published their findings in the journal *Radiology*.

More body fat, less gray matter volume

Dr. Dekkers and her colleagues decided to investigate how obesity might affect the brain because previous studies had found a higher risk of cognitive decline and dementia among people with obesity.

So, the scientists examined brain scans from over 12,000 people who took part in the United Kingdom Biobank Imaging study. The brain imaging techniques that the team used in the study offered insights into the participants' gray and white matter.

Weight loss: 'Telling someone to improve their diet doesn't work'

Such advice rarely empowers people who wish to lose weight.

Describing the brain in very broad terms, this central processing unit consists of an "outer cortex of gray matter and an inner area housing tracts of white matter."

The gray matter is packed with neurons, whereas white matter primarily consists of nerve projections called axons and glial cells.

In the current study, according to Dr. Dekkers, the team found that "having higher levels of fat distributed over the body is associated with smaller volumes of important structures of the brain, including gray matter structures that are located in the center of the brain."

"Interestingly, we observed that these associations are different for men and women, suggesting that gender is an important modifier of the link between fat percentage and the size of specific brain structures," she adds.

Specifically, men with obesity had lower gray matter volume both overall and in certain reward-processing circuits and brain structures that deal with movement.

For women with obesity, an increased amount of body fat only correlated with lower matter volume in a region called the globus pallidus, which is a brain area that plays a role in voluntary movement.

In both men and women, there was a correlation between a larger amount of body fat and the chance of small changes occurring in the brain's white matter.

Obesity and the brain: Is inflammation key?

"Our study shows that very large data collection of MRI data can lead to improved insight into exactly which brain structures are involved in all sorts of health outcomes, such as obesity," says Dr. Dekkers.

The scientist ventures some opinions on the possible implications of the study. Less gray matter could mean fewer neurons, she says, and white matter changes could affect the communication between neurons.

Also, previous studies have linked gray matter volume with "food-reward circuitry," so the changes in gray matter could make it hard for people to control their eating behaviors, she suggests. However, she also cautions that more research is necessary to strengthen this conclusion.

Dr. Dekkers also points out that according to previous studies, obesity-related inflammation can affect brain tissue. This low-grade inflammation could, therefore, explain the study's recent findings.

"For future research, it would be of great interest whether differences in body fat distribution are related to differences in brain morphological structure, as visceral fat is a known risk factor for metabolic disease and is linked to systemic low-grade inflammation," says Hildo Lamb, Ph.D., the study's senior author.

[How stress eating might prime the body to store fat \(Medical News Today:20190430\)](https://www.medicalnewstoday.com/articles/325056.php)

<https://www.medicalnewstoday.com/articles/325056.php>

Using a mouse model, researchers discovered that insulin controls a molecular pathway in the brain that activates during stress and leads to more weight gain.

New research explains why eating high-calorie foods when stressed may lead to more significant weight gain.

Researchers have long been aware that stress can lead to addiction and increase the risk of disease. Studies have also shown that chronic stress can change eating patterns and affect food choices. Although some people eat less while under stress, most tend to overeat and increase their intake of high-calorie foods.

When stress occurs, the adrenal glands release a hormone called cortisol, which increases appetite and motivates a person to eat, especially foods high in fat, sugar, or both. In combination with high insulin — one of the hormones that control food intake, high cortisol levels are a key factor in so-called stress eating.

Eating patterns vary from person to person, but some research suggests that a person's biological sex may affect their stress-coping behavior. A Finnish study, which included almost 7,000 adolescents, showed that females were more likely than males to overeat when under stress and had a higher risk of obesity.

Understanding what controls stress eating

Professor Herbert Herzog, head of the Eating Disorders laboratory at the Garvan Institute of Medical Research in Darlinghurst, Australia, recently led a team of researchers conducting a study in mice to understand what controls stress eating. The researchers published their findings in the journal *Cell Metabolism*.

"This study indicates that we have to be much more conscious about what we're eating when we're stressed to avoid a faster development of obesity."

Prof. Herbert Herzog

A part of the brain called the hypothalamus plays the most significant role in controlling food intake, while scientists have implicated the amygdala in emotional processing. In this study, the researchers made a discovery: an insulin-controlled molecular pathway in the brain that may lead to excessive weight gain.

"Our study showed that when stressed over an extended period and high-calorie food was available, mice became obese more quickly than those that consumed the same high-fat food in a stress-free environment," says Dr. Kenny Chi Kin Ip, lead author of the study.

How might obesity affect the brain?

Cutting-edge MRI scans reveal brain changes in people with obesity.

The molecule at the center of this pathway in the brain is called NPY. The brain produces this molecule naturally during stressful times, and the study showed that NPY stimulates the intake of high-calorie foods in mice.

"We discovered that when we switched off the production of NPY in the amygdala, weight gain was reduced. Without NPY, the weight gain on a high-fat diet with stress was the same as weight gain in the stress-free environment," explains Dr. Ip.

Stress and calorific foods create vicious cycle

The researchers analyzed the nerve cells that produced NPY in the amygdala and found that they had receptors for insulin, a hormone that the pancreas produces, which helps the body store and use glucose.

In a stress-free environment, after a meal, the body produces insulin, which is responsible for delivering the glucose from the bloodstream to the cells so that they can use it for fuel. It also signals to the hypothalamus that it is time to stop eating.

By comparing mice under stress with those that were stress-free, the researchers showed that the production of insulin increased only slightly during stressful times. However, when they compared stressed mice on a high-calorie diet with stress-free mice on a normal diet, they found that the levels of this hormone became 10 times higher in the former group.

These high levels of insulin caused the nerve cells in the amygdala to become desensitized to insulin and to boost NPY levels.

"Our findings revealed a vicious cycle, where chronic, high insulin levels driven by stress and a high-calorie diet promoted more and more eating," concludes Prof. Herzog.

The research team was surprised to discover that insulin had such a significant effect on the amygdala. The results show that insulin does not only regulate functions in the peripheral regions of the body, but it may also affect important pathways in the brain. The team hopes to investigate these effects further in the future.