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LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
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चिकित्सा तकनीक

देश में पहली बार रोबोट से हुआ रीढ़ की हड्डी का ऑपरेशन, जानें कैसे मिली सफलता (Dainik Jagran:20190716)

<https://www.jagran.com/delhi/new-delhi-city-ncr-robot-operated-spinal-cord-injury-for-the-first-time-in-the-country-19389606.html>

दिल्ली के डॉक्टरों को एक और बड़ी सफलता मिली है। दिल्ली स्थित इंडियन स्पाइनल इंजरी सेंटर (आइएसआइसी) में रोबोट से रीढ़ की हड्डी के पांच सफल ऑपरेशन किए गए हैं।

नई दिल्ली, जेएनएन। चिकित्सा तकनीक के क्षेत्र में भारत लगातार अपना लोहा मनवा रहा है। इसी कड़ी में दिल्ली के डॉक्टरों को एक और बड़ी सफलता मिली है। दिल्ली स्थित इंडियन स्पाइनल इंजरी सेंटर (आइएसआइसी) में रोबोट से रीढ़ की हड्डी के पांच सफल ऑपरेशन किए गए हैं। आइएसआइसी का दावा है कि रोबोट से देश में पहली बार रीढ़ की हड्डी का ऑपरेशन किया गया है। हालांकि अमेरिका में इस तकनीक का इस्तेमाल पहले से किया जा रहा है। यह जानकारी आइएसआइसी के मेडिकल डायरेक्टर कम चीफ ऑफ स्पाइन सर्विसेज डॉ एचएस छाबड़ा ने बुधवार पत्रकार वार्ता के दौरान दी है।

देश का पहला अस्पताल बना आइएसआइसी

उन्होंने बताया कि आइएसआइसी देश का पहला ऐसा अस्पताल है, जहां एडवांस स्पाइन रोबोटिक सिस्टम उपलब्ध है। इसके जरिये की जाने वाली सर्जरी ज्यादातर सफल रहती है। इससे प्रत्यारोपण, रिवीजन सर्जरी, रेडिएशन एक्सपोजर और इंफेक्शन आदि का खतरा बेहद कम रहता है। उन्होंने बताया कि हाल ही में रोबोटिक्स सर्जरी से पांच लोगों का सफल ऑपरेशन किया जा चुका है।

कम समय में बेहतर काम

दिल्ली की रहने वाली 33 वर्षीय प्रीति पांडेय की रीढ़ की हड्डी में टेढ़ापन था। उनका आठ जुलाई को आधुनिक रोबोटिक सिस्टम की मदद से ऑपरेशन किया गया। डॉ एचएस छाबड़ा के मुताबिक इस तकनीक से ऑपरेशन सटीक व सुरक्षित हुए हैं। साथ ही समय भी बहुत कम लगा। इसमें रोबोट मशीन में सॉफ्टवेयर के जरिये रोगी की बीमारी से जुड़ी जानकारी फीड कर दी जाती है, जिससे ऑपरेशन के वक्त मशीन अपना काम सही तरीके से करती है।

ऐसे होता है ऑपरेशन

इसके अंदर एक थ्री-डी स्कैनिंग कैमरा लगा है। इससे मशीन खुद ही मरीज को ऑपरेशन से पहले और बाद में स्कैन कर लेती है। रोबोटिक्स सर्जरी में मामूली सा चीरा लगाना पड़ता है। इसलिए इस तकनीक से होने वाले ऑपरेशन में खून बहुत कम निकलता है और रिकवरी तेजी से होती है।

मरीज ने कहा आसान हुई सर्जरी

मरीज प्रीति पांडेय ने बताया कि शुरुआत में रोबोट द्वारा ऑपरेशन की बात सुनकर मैं घबरा गई थी। लेकिन, रोबोट की मदद से सर्जरी आसानी से हो गई और तेजी से रिकवरी भी हुई।

पुरुषों को कैंसर

पुरुषों में कैंसर होने के संकेत हैं शरीर में दिखने वाले ये 15 लक्षण, आप भी जानें (Dainik Jagran:20190716)

पुरुषों को कैंसर के इन 15 लक्षणों को नजरअंदाज नहीं करना चाहिए, आइए हम आपको कैंसर के लक्षणों के बारे में बताते हैं। अगर कैंसर के लक्षण समय रहते दिखने लगे तो जरूरी उपाय करके इससे बचा जा सकता है।

पुरुषों को कैंसर के इन 15 लक्षणों को कभी भी नजरअंदाज नहीं करना चाहिए।

जिन लोगों को कैंसर होता है उनका वजन असामान्य रूप से कम होने लगता है।

टेस्टिकल्स में बदलाव होना टेस्टिकुलर कैंसर का लक्षण हो सकता है।

एक अनुमान के मुताबिक, अमेरिका में 2018 में 323,630 पुरुषों की मृत्यु कैंसर से हुई है। इनमें नॉन-मेलेनोमा स्किन कैंसर, फेफड़ों के कैंसर, प्रोस्टेट कैंसर और कोलोरेक्टल कैंसर के मामले ज्यादा हैं। हालांकि, महिलाओं की तुलना में पुरुषों में कैंसर की मृत्यु दर अधिक है। 2011-2015 के आंकड़ों के अनुसार, कैंसर की मृत्यु की दर प्रति 100,000 पुरुषों में 196.8 और प्रति 100,000 महिलाओं में 139.6 थी। यह आंकड़े भले ही अमेरिका के हैं, मगर भारत में भी कैंसर के मामले कम नहीं हैं।

कैंसर (Cancers in Men) जानलेवा बीमारी है, जो किसी को भी हो सकती है। लेकिन कैंसर के लक्षणों को अगर समय पर पहचान लिया जाये तो इसके इलाज में आसानी होती है। कैंसर के शुरुआती स्टेज में पता चलने पर इसके इलाज में ज्यादा दिक्कत नहीं होती है और मरीज को बचाया जा सकता है। लेकिन जीवनशैली में थोड़ी सी सावधानी बरती जाये तो कैंसर से दूर भी रहा जा सकता है। अगर कैंसर के लक्षण समय रहते दिखने लगे तो जरूरी उपाय करके इससे बचा जा सकता है। कैंसर अपने पहले स्टेज में है तो आसानी से कीमोथेरेपी, लेजर थेरेपी और रेडियोथेरेपी द्वारा इसका इलाज हो सकता है।

शरीर में विभिन्न प्रकार के कैंसर हो सकते हैं जैसे- मुंह का कैंसर, ब्रेस्ट कैंसर, सर्वाइकल कैंसर, पेट का कैंसर, ब्रेन कैंसर आदि। पुरुषों को कैंसर के इन 15 लक्षणों को नजरअंदाज नहीं करना चाहिए, आइए हम आपको कैंसर के लक्षणों के बारे में बताते हैं।

पुरुषों में कैंसर के लक्षण

1 - जिन लोगों को कैंसर होता है उनका वजन असामान्य रूप से कम होने लगता है। अगर बिना किसी प्रयास के शरीर का वजन 10 पौंड से ज्यादा कम हो जाये तो इसे कैंसर का प्राथमिक लक्षण के रूप में देखा जा सकता है।

2 - बुखार कैंसर का एक सामान्य लक्षण होता है। कैंसर मरीज की रोग-प्रतिरोधक क्षमता कमजोर हो जाती है, इसलिए मरीज को अक्सर बुखार रहने लगता है। ब्लड कैंसर, ल्यूकीमिया इत्यादि में अक्सर बुखार के लक्षण नजर आते हैं।

3- थकान कैंसर का एक प्रमुख लक्षण माना जाता है। इसमें मरीज बिना वजह थका थका महसूस करता है। कभी-कभी तो वह हाथ पांव से काम करने लायक भी नहीं रहता।

- 4- हड्डियों के कैंसर या टेस्टीकुलर कैंसर में पीड़ा यानि दर्द होना कैंसर होने का संकेत है। ब्रेन ट्यूमर के मरीजों को सर दर्द की शिकायत रहने लगती है। ऐसा सर दर्द जो प्राथमिक उपचार से या दवा से भी न ठीक हो, उसे ब्रेन ट्यूमर का लक्षण माना जा सकता है।
- 5- त्वचा में असामान्य परिवर्तन कैंसर के संकेत हो सकते हैं। अगर किसी व्यक्ति की त्वचा बेवजह सांवली या काली पड़ने लगी हो तो यह कैंसर का संकेत हो सकता है। त्वचा का पीला पड़ना भी कैंसर होने का संकेत देता है।
- 6- अगर किसी को लम्बे समय से कब्ज की शिकायत रहती हो अथवा कोई लम्बे समय से डायरिया से परेशान हो तो ये कोलोन कैंसर या उदर के कैंसर के संकेत हो सकते हैं।
- 7- मूत्र त्याग के वक्त यदि पीड़ा होती हो अथवा मूत्र में रक्त की मौजूदगी पाई जाती हो तो ये प्रोस्टेट कैंसर अथवा डिम्बग्रंथि कैंसर के लक्षण हो सकते हैं।
- 8- स्तनों में गांठ होना ब्रेस्ट कैंसर के लक्षण हैं। ब्रेस्ट कैंसर केवल महिलाओं को ही नहीं होता, पुरुष भी इसकी गिरफ्त में आते हैं।
- 9- लिम्फ नोड्स में परिवर्तन होना भी कैंसर का संकेत है। लिम्फ नोड्स में या गले में एक गांठ या सूजन हो तो चिंता का विषय है।
- 10- सर्दी और जुकाम में कफ होना लाजमी है, लेकिन यदि लगातार चार हफ्ते से कफ आ रहा है तो यह कैंसर का संकेत है, इसे नकारना नहीं चाहिए।
- 11- निगलने में परेशानी होना भी कैंसर का लक्षण है। खाते और पीते वक्त निगलने में दिक्कत हो तो इसे नजरअंदाज मत कीजिए।
- 12- ऐसे हिस्से से खून निकलना जहां से खून निकलने की संभावना न हो। खांसी, मल त्याग, पेशाब के दौरान यदि खून निकले तो यह कैंसर का संकेत हो सकता है।
- 13 - यदि स्मोकिंग और तंबाकू चबाने के दौरान मुंह या जीभ में सफेद दाग व धब्बे दिखे तो यह कैंसर के लक्षण हो सकते हैं। यह ओरल कैंसर के लक्षण हैं।
- 14- कैंसर होने पर पाचन क्रिया भी प्रभावित होता है। यदि खाना अच्छे से पच नहीं रहा है, तो यह पेट के कैंसर का लक्षण हो सकता है।

15- टेस्टिकल्स में बदलाव होना टेस्टिकुलर कैंसर का लक्षण हो सकता है। टेस्टिकुलर कैंसर ज्यादातर 20 से 39 साल की उम्र में होता है।

कैंसर का जितना जल्दी निदान होगा इलाज में आसानी होगी, कैंसर के लक्षण के आधार पर ही यह पहचाना जाता है। यदि आपको कैंसर के यह लक्षण दिखें तो तुरंत चिकित्सक से संपर्क कीजिए।

दवाओं की गुणवत्ता

दिल्ली और पंजाब की दवाइयां सबसे अधिक गड़बड़, सरकार की नजर (Amar Ujala:20190716)

<https://www.amarujala.com/delhi-ncr/delhi-and-punjab-s-medicines-are-most-messy-government-eyes>

एक ओर भारतीय चिकित्सा को जन-जन तक पहुंचाने के लिए सरकार शोध से लेकर उपचार प्रक्रिया तक पर जोर दे रही है। वहीं आयुष दवाओं की गुणवत्ता को लेकर सवाल खड़े हो रहे हैं। इसलिए आयुष मंत्रालय अब विभिन्न राज्यों में आयुष दवाओं की गुणवत्ता को लेकर पैनी नजर बनाए हुए है।

ताजा आंकड़ों की मानें तो करीब 23 राज्य ऐसे हैं, जहां पिछले चार वर्ष के दौरान दवाओं के सैंपल एकत्रित किए हैं। जांच के बाद सर्वाधिक पंजाब और दिल्ली में आयुर्वेदिक दवाएं तय मानकों पर खरी नहीं उतर रही हैं।

आयुष मंत्रालय के अनुसार आयुर्वेद, होम्योपैथी, सिद्धा और यूनानी दवाओं की गुणवत्ता पर निगरानी लगातार जारी है। साथ ही बेहतर दवाओं के दावे करने वाले विज्ञापनों पर रोक भी लगाई जा चुकी है।

मंत्रालय के मुताबिक, वर्ष 2015 से 2018 के बीच 23 राज्यों में लिए गए सैंपल में सबसे ज्यादा गंभीर हालात पंजाब में देखने को मिले हैं। पंजाब में वर्ष 2015-16 के दौरान करीब 941 आयुर्वेद दवाओं के सैंपल लिए, जिनमें से 119 सैंपल फेल मिले। 2016-17 में 715 में से 99, 2017-18 में 423 में से 55 और 2018-19 में 886 आयुर्वेद दवाओं के सैंपल में से 69 फेल हुए हैं।

दिल्ली में वर्ष 2015-16 के दौरान 3 हजार आयुर्वेद दवाओं के सैंपल में से 13, वर्ष 2016-17 में 2048 में से 11 और 2017-18 में 600 सैंपल में से 4 फेल मिले हैं।

मंत्रालय के एक वरिष्ठ अधिकारी ने बताया कि बीते कुछ वर्षों में आयुष चिकित्सा को काफी बढ़ावा मिला है। मरीजों में भी इसके प्रति भरोसा बढ़ा है। इसलिए सरकार गुणवत्ता को लेकर पूरी सतर्कता बरत रही है। राष्ट्रीय आयुष मिशन के तहत विभिन्न राज्यों में प्रयोगशालाएं स्थापित करने के लिए भी केंद्र से सहायता दी जा रही है।

मंत्रालय की रिपोर्ट के अनुसार पंजाब और दिल्ली के अलावा हिमाचल प्रदेश, पश्चिम बंगाल, असम, अरुणाचल प्रदेश, मध्यप्रदेश, महाराष्ट्र, तमिलनाडू, मिजोरम, चंडीगढ़, छत्तीसगढ़, गोवा, गुजरात, झारखंड, कर्नाटक, केरल, त्रिपुरा और उत्तराखंड शामिल हैं।

हिमाचल प्रदेश में वर्ष 2018-19 के दौरान 94 में चार सैंपल फेल मिले हैं जबकि उत्तराखंड की बात करें, तो वहां इसी अवधि में 27 में से तीन दवाओं के सैंपल फेल हैं।

टीबी

टीबी से बचाव के लिए 2 वैक्सीन का होगा क्लीनिकल ट्रायल (Amar Ujala:20190716)

<https://www.amarujala.com/delhi-ncr/clinical-trials-of-two-vaccines-for-prevention-from-tb>

टीबी यानी, क्षय रोग से बचाव की दिशा में भारत जल्द ही एक बड़ा मुकाम हासिल कर सकता है। भारतीय वैज्ञानिकों ने टीबी से बचाव के लिए वैक्सीन पर अध्ययन शुरू कर दिया है।

सोमवार को भारतीय आयुर्विज्ञान अनुसंधान परिषद (आईसीएमआर) ने दो वैक्सीन पर क्लीनिकल ट्रायल के लिए मरीजों का पंजीकरण शुरू किया। दिल्ली सहित 6 राज्यों के 7 शहरों से लगभग 12 हजार मरीजों को लेकर 3 वर्ष तक दो अलग-अलग समूह में ये ट्रायल किया जाएगा।

बताया जा रहा है कि अगले छह से सात माह के दौरान मरीजों के पंजीयन का काम शुरू कर दिया जाएगा। इसी साल के अंत तक भारतीय वैज्ञानिक वैक्सीन के क्लिनिकल ट्रायल की दिशा में आगे बढ़ जाएंगे।

दिल्ली की बात करें तो एम्स, सफदरजंग और वल्लभगढ़ स्थित एम्स सेंटर के अलावा महरौली स्थित क्षयरोग व श्वसन रोग के राष्ट्रीय संस्थान में आने वाले मरीजों को इसमें शामिल किया जाएगा।

आईसीएमआर की वैज्ञानिक डॉ. मंजुला सिंह बताती हैं कि टीबी एक संक्रामक रोग है। दुनिया में सबसे ज्यादा टीबी के रोगी भारत में है। टीबी रोग होने के बाद मरीज के परिवार के अन्य सदस्यों को भी इसका खतरा रहता है। इससे ना सिर्फ बीमारी का दायरा बढ़ता है, बल्कि इसके चलते गंभीर परिणाम भी देखने को मिलते हैं। इसलिए 2 वैक्सीन पर क्लिनिकल ट्रायल किया जा रहा है।

ट्रायल में ज्यादातर वे लोग होंगे, जिनके परिवार में किसी ना किसी को टीबी की बीमारी हुई है, ताकि उनमें संक्रमण की स्थिति का पता लगाया जा सके। एक सवाल के जवाब में डॉ. मंजुला ने बताया कि ट्रायल पूरा होने के बाद ही वास्तविक स्थिति सामने आएगी।

आईसीएमआर के महानिदेशक डॉ. बलराम भार्गव ने बताया कि पुणे स्थित सीरम इंस्टीट्यूट ऑफ इंडिया ने वीपीएम1002 वैक्सीन का निर्माण किया है, जबकि दूसरी वैक्सीन एमआईपी है। इन दोनों वैक्सीन का ट्रायल किया जा रहा है।

दिल्ली के अलावा कर्नाटक, महाराष्ट्र, ओडिशा, तमिलनाडु और तेलंगाना के मरीजों को इसमें शामिल किया जाएगा। उन्होंने बताया कि दुनिया में टीबी के खिलाफ महाअभियान छिड़ा हुआ है। इसमें भारत एकमात्र ऐसा देश है, जिसने 5 वर्ष पहले 2025 तक टीबी मुक्त देश का संकल्प लिया है। अन्य देशों ने ये लक्ष्य 2030 का रखा है।

उन्होंने बताया कि ट्रायल के दौरान वैक्सीन आमजन के लिए कितना सुरक्षित और प्रभावी है, इसके बारे में पता लगाया जाएगा। इसमें एक लंबा वक्त भी लग सकता है, इसलिए अनुमान है कि 3 से 4 वर्ष के दौरान ही वैक्सीन के परिणाम सबके सामने होंगे। तमाम विभागीय मंजूरी लेने के बाद इसके ट्रायल पर काम शुरू हो चुका है।

मलेरिया

दिल्ली में इस साल मलेरिया के 60 से ज्यादा मामले, 27 डेंगू के (Amar Ujala:20190716)

<https://www.amarujala.com/delhi-ncr/over-60-malaria-cases-in-delhi-27-of-dengue>

मलेरिया का प्रकोप

दिल्ली में इस साल मलेरिया के कम से कम 60 मामले सामने आए हैं। ये मामले डेंगू के मामलों से दोगुने से भी ज्यादा हैं। इस बात का खुलासा निगम की ओर से सोमवार को जारी एक रिपोर्ट में सामने आई है। चिंता की बात यह है कि मलेरिया के 57 मामले केवल जून माह में दर्ज किये गए हैं।

पिछले साल दक्षिणी दिल्ली निगम ने डेंगू के 2798 मामले दर्ज किये थे जबकि 4 मौतें भी हुई थीं। रिपोर्ट के मुताबिक इस साल 13 जुलाई तक डेंगू के 27 मामले दर्ज किये गए हैं। जून में 16, मई में 3, अप्रैल में 2, मार्च में 4 और जनवरी तथा फरवरी में एक-एक मामला सामने आया।

मलेरिया के 66 में से 8 मामले मई में दर्ज किये गए, अप्रैल में एक और चिकनगुनिया के 14 मामले इसी माह दर्ज किये गए जबकि 9 मामले जून में सामने आए थे।

आबादी

दुनिया बूढ़ी हो रही है; पहली बार बुजुर्गों की आबादी 5 साल तक के बच्चों से ज्यादा हुई (Dainik Bhaskar:20190716)

<https://www.bhaskar.com/national/news/west-bengal-three-elephants-died-in-forest-area-near-binpur-village-in-jhargram-01591483.html?art=next>

यूएन के मुताबिक, पहली बार 65 साल से ज्यादा उम्र के लोगों की आबादी 5 साल तक के बच्चों से ज्यादा हो गई

2050 में बुजुर्गों की संख्या बच्चों से दो गुनी होगी, तब 210 करोड़ बुजुर्ग होंगे

भोपाल/नई दिल्ली. दुनिया बूढ़ी हो रही है। यूएन के मुताबिक पहली बार 65 साल से अधिक उम्र के लोगों की आबादी पांच साल तक के बच्चों से ज्यादा हो गई है। 2050 में बुजुर्गों की संख्या बच्चों से दो गुनी होगी। तब 210 करोड़ बुजुर्ग होंगे। एक और बात... भारत 2027 में 145 करोड़ आबादी के साथ चीन को पीछे छोड़ देगा। हालांकि ऐसा पहली बार नहीं होगा। 12 हजार साल में से 6200 साल भारत की आबादी दुनिया में सबसे ज्यादा रही है। आबादी के बीते कल, आज और आने वाले कल पर नॉलेज रिपोर्ट...

चीन 259 साल से भारत से आगे है, 8 साल बाद भारत दुनिया में नंबर-वन

हिस्ट्री डेटाबेस ऑफ द ग्लोबल एनवॉयरमेंट रिपोर्ट के मुताबिक 12 हजार साल में दुनिया में जन्मे लोगों में से 49.7% भारत और चीन में पैदा हुए। ईसा पूर्व 4440 से 1760 ईसवी तक भारत की आबादी चीन से ज्यादा रही। फिर चीन आगे हो गया।

ईसा पूर्व 10 हजार साल तक सर्वाधिक आबादी मैक्सिको में थी। ईसा पूर्व 5050 में चीनी आबादी मैक्सिको से अधिक हो गई।

अब तक 10 हजार करोड़ लोग पैदा हुए। इनमें से 6.9% आबादी जिंदा है।

साल 1800 में पहली बार आबादी 100 करोड़ पहुंची और 1989 में 500 करोड़।

दुनिया का हर 11वां शख्स बुजुर्ग है, 30 साल में किशोरों से भी अधिक होंगे 65+ के लोग

2019 में दुनिया की आबादी 770 करोड़ है। इसमें चीन और भारत का हिस्सा क्रमशः 19% और 18% है, यानी 37% आबादी सिर्फ दो देशों में हैं। मौजूदा दर से 2050 तक भारत की आबादी 27.3 करोड़ बढ़ेगी।

अभी दुनिया का हर 10वां शख्स बुजुर्ग है, 2050 तक हर छठा शख्स होगा। तब दुनिया में बुजुर्गों की संख्या किशोरों से ज्यादा होगी।

अभी आबादी बढ़ने की दर सबसे कम 1.1%, अभी दुनिया में सबसे कम बच्चे

बढ़ती आबादी के कारण अनाज और पानी की कमी सबसे बड़ी समस्या बनेगी

यूएन के अनुसार दुनिया की आबादी 2030 तक 850 करोड़ होने का अनुमान है। 2050 तक 970 करोड़ व 2100 तक यह 1090 करोड़ होगी। फिर अनाज और पानी की कमी के कारण आबादी घटने लगेगी।

अमेरिकी वैज्ञानिक पीटर वार्ड कहते हैं कि इतनी आबादी को खिलाने के लिए धरती के हर हिस्से पर अन्न उगाना होगा।

1990 में दुनिया में प्रति महिला बच्चा पैदा करने की दर 3.2 थी, जो अब 2.5 पहुंच गई है। भारत के 23 राज्यों में यह दर 2.1 के नीचे है।

2031 तक भारत में आबादी बढ़ने की दर घटकर 1% पर आ जाएगी और इसके अगले 10 साल में यह दर महज 0.5% रह जाएगी।

42.6 करोड़ लोगों की उम्र 2050 तक 80 साल से अधिक होगी। अभी 14.3 करोड़ है। भारत में हर सातवां शख्स 65 पार होगा।

एम्स में बन रहा है एशिया का सबसे बड़ा बर्न सेंटर

■ प्रमुख संवाददाता, नई दिल्ली

एशिया का सबसे बड़ा बर्न सेंटर एम्स में इसी साल शुरू हो जाएगा। एम्स के डायरेक्टर डॉक्टर रणदीप गुलेरिया ने कहा कि बिल्डिंग बन चुकी है, साल के अंत तक इसे शुरू कर दिया जाएगा। जैसे ही सेंटर शुरू होगा, उसमें स्किन बैंक भी शुरू कर दिया जाएगा। डिपार्टमेंट प्रमुख डॉक्टर मनीष सिंघल ने कहा कि एम्स में हर साल तीन हजार से ज्यादा प्लास्टिक सर्जरी हो रही है। हेयर ट्रांसप्लांट कर रहे हैं, सेंटर शुरू होते ही एक से दो साल के अंदर हैड ट्रांसप्लांट और फेशियल इंप्लांट भी शुरू कर देंगे। शुरू में आधी क्षमता से काम शुरू करेंगे और धीरे धीरे पूरे सेंटर को अपनी क्षमता के अनुसार ढाल देंगे।

सोमवार को एम्स में नैशनल प्लास्टिक सर्जरी डे के कार्यक्रम के दौरान डॉक्टर गुलेरिया ने कहा कि इस साल के अंत तक यह सेंटर शुरू हो जाएगा, यह रिसर्च का भी हब बनेगा। हमारा मकसद कॉस्मेटिक से ज्यादा रीकंस्ट्रक्टिव सर्जरी पर है और इसी एजेंडे के तहत काम किया जाएगा, ताकि ऐसे लोगों के जीवन स्तर को बेहतर बनाया जा सके। उन्होंने कहा कि नए सेंटर में डेडिकेटेड ऑपरेशन थियेटर होगा, आईसीयू भी होगा। इस दौरान एक डॉक्टर ने कहा कि पूरे विश्व में 75 पर्सेंट बर्न के मामले भारत में आते हैं और इसका इलाज भी बहुत महंगा है। इसलिए आज देश भर में ऐसे सेंटर और स्पेशलिस्ट की जरूरत है।

साल के अंत तक होगा शुरू

- 102 बेड की क्षमता वाला होगा सेंटर, स्किन बैंक भी शुरू होगा
- पूरी दुनिया के 75 पर्सेंट बर्न के मामले में अपने देश में ही आते हैं

बनेगी आर्टिफिशियल स्किन

डॉक्टर मनीष ने बताया कि एम्स में 30 फैकल्टी हैं और औसतन हर साल तीन हजार प्लास्टिक सर्जरी की जाती है। लेकिन प्लास्टिक सर्जरी में स्किन की कमी होती है, कैडेवर डोनेशन से स्किन बहुत कम मिलता है। नॉर्थ इंडिया में सिर्फ सफदरजंग में स्किन बैंक है और वहां पर नाम मात्र डोनेशन हुआ है। हमें आज भी अगर स्किन की जरूरत होती है तो हम दक्षिण भारत से स्किन मंगाते हैं। ऐसे में एम्स में स्किन बैंक खोलना जरूरी है और हम इसे खोलने जा रहे हैं। मनीष ने कहा कि लेकिन इससे समस्या का हल नहीं हो रहा है, इसलिए हम आर्टिफिशियल स्किन बनाने पर काम कर रहे हैं।

Healthcare

A WASH for healthcare (The Hindu:20190716)

<https://www.thehindu.com/opinion/op-ed/a-wash-for-healthcare/article28448690.ece>

Wash hands sign on blue background

Without adequate water, sanitation and hygiene amenities, infection control is severely compromised

Healthcare facilities are many and varied. Some are primary, others are tertiary. Many are public, some are private. Some meet specific needs, whether dentistry or occupational therapy, and some are temporary, providing acute care when disaster strikes.

Whatever their differences, and wherever they're located, adequate water, sanitation and hygiene (WASH) amenities, including waste management and environmental cleaning services, are critical to their safe functioning. When a healthcare facility lacks adequate WASH services, infection prevention and control are severely compromised. This has the potential to make patients and health workers sick from avoidable infections. As a result (and in addition), efforts to improve maternal, neonatal and child health are undermined. Lack of WASH facilities also results in unnecessary use of antibiotics, thereby spreading antimicrobial resistance.

As a joint report published earlier this year by the World Health Organization and the UN Children's Fund (UNICEF) outlines, WASH services in many facilities across the world are missing or substandard. According to data from 2016, an estimated 896 million people globally had no water service at their healthcare facility. More than 1.5 billion had no sanitation service. One in every six healthcare facilities was estimated to have no hygiene service (meaning it lacked hand hygiene facilities at points of care, as well as soap and water at toilets), while data on waste management and environmental cleaning was inadequate across the board.

Enhancing primary healthcare

In WHO's South-East Asia region, efforts to tackle the problem and achieve related Sustainable Development Goal (SDG) targets are being vigorously pursued. As outlined at a WHO-supported meeting in New Delhi in March, improving WASH services in healthcare facilities is crucial to accelerating progress towards each of the region's 'flagship priorities', especially the achievement of universal health coverage. Notably, improving WASH services was deemed essential to enhancing the quality of primary healthcare services, increasing equity and bridging the rural-urban divide.

“India certainly has a serious problem with health literacy and it is the responsibility of public health professionals to close this gap.”

Think differently about healthcare

A World Health Assembly Resolution passed in May is hoping to catalyse domestic and external investments to help reach the global targets. These include ensuring at least 60% of all healthcare facilities have basic WASH services by 2022; at least 80% have the same by 2025; and 100% of all facilities provide basic WASH services by 2030.

For this, member states should implement each of the WHO- and UNICEF-recommended practical steps. First, health authorities should conduct in-depth assessments and establish national standards and accountability mechanisms. Across the region, and the world, a lack of quality baseline data limits authorities’ understanding of the problem. As this is done, and national road-maps to improve WASH services are developed, health authorities should create clear and measurable benchmarks that can be used to improve and maintain infrastructure and ensure that facilities are ‘fit to serve’.

Educating the health workers

Second, health authorities should increase engagement and work to instil a culture of cleanliness and safety in all healthcare facilities. Alongside information campaigns that target facility administrators, all workers in the health system — from doctors and nurses to midwives and cleaners — should be made aware of, and made to practise, current WASH and infection prevention and control procedures (IPC). To help do this, modules on WASH services and IPC should be included in pre-service training and as part of ongoing professional development. In addition, authorities should work more closely with communities, especially in rural areas, to promote demand for WASH services.

Personalising health advice to make lifestyle changes

And third, authorities should ensure that collection of data on key WASH indicators becomes routine. Doing so will help accelerate progress by promoting continued action and accountability. It will also help spur innovation by documenting the links between policies and outcomes. To make that happen, WHO is working with member states as well as key partners to develop a data dashboard that brings together and tracks indicators on health facilities, including WASH services, with a focus on the primary care level.

As member states strive to achieve the ‘flagship priorities’ and work towards the SDG targets, that outcome is crucial. Indeed, whatever the healthcare facility, whoever the provider, and wherever it is located, securing safe health services is an objective member states must boldly pursue.

Poonam Khetrpal Singh is regional director, WHO, South-East Asia

Surrogacy Bill

Commercial surrogacy: Bill for 10-yr jail to guilty (The Tribune:20190716)

<https://www.tribuneindia.com/news/nation/commercial-surrogacy-bill-for-10-yr-jail-to-guilty/802605.html>

The Bill bans commercial surrogacy allowing services of surrogates only for altruistic and ethical purposes.

Clinics, labs and establishments undertaking or advertising commercial surrogacy will face a jail term of not less than 10 years and a fine that can extend up to Rs 10 lakh. This penal provision and a range of others are part of the Surrogacy Regulation Bill, 2019, the government introduced in the Lok Sabha today.

The Bill bans commercial surrogacy allowing services of surrogates only for altruistic and ethical purposes. Doctors who own a clinic where commercial surrogacy is being done or those who offer services to clinics offering such a service will face imprisonment for a term that may extend up to five years and a fine up to Rs 10 lakh on the first offence and cancellation of their medical licence on the subsequent offence.

Even couples seeking commercial surrogacy advice or services will face jail term up to five years and a fine up to Rs 5 lakh on the first offence and jail up to 10 years and fine up to Rs 10 lakh in the subsequent offence.

The Bill also says the exploitation of a surrogate mother by any person, organisation, etc. is a non-bailable and non-compoundable offence.

The Bill seeks to regulate surrogacy services in the country and says only married Indian couples who have not been able to conceive for five years and who produce a certificate of infertility will be allowed to use such services. The intending couple should be 23 to 50 years for a woman and 26 to 55 years for a man. The surrogacy services will be out of bounds for live-in partners, single parents, LGBTQ community and even NRIs and PIOs.

The Bill says the surrogate mother should be a close relative of the intending couple, should be between 25 and 35 years and should be a married woman with a child of her own.

The Bill provides for creating national and state-level surrogacy boards to implement the law and appointing appropriate authorities in every state where the intending couple will make an application for surrogacy.

Both Docs, couples to be punished

The Bill bans commercial surrogacy, allowing services of surrogates only for altruistic and ethical purposes

Doctors offering commercial surrogacy will face up to five-year imprisonment and Rs 10 lakh fine on first offence and cancellation of medical licence on the subsequent

Even couples seeking commercial surrogacy advice or services will face up to five years in jail and Rs 5 lakh fine on first offence and up to 10-year jail and Rs 10 lakh fine on subsequent.

Ayush Wellness Centres

Govt plans to set up 4,200 Ayush wellness centres in ongoing fiscal (The Indian Express:20190716)

<https://indianexpress.com/article/india/govt-plans-to-set-up-4200-ayush-wellness-centres-in-ongoing-fiscal-5831273/>

The government said on Monday that it plans to set up 4,200 Ayush wellness centres in the country in FY 2019-20 across several states.

Ayush Minister Shripad Yesso Naik

As Rajya Sabha members across party lines sought more funding by the government for the Ministry of Ayush for encouraging traditional systems of medicine, the government said on Monday that it plans to set up 4,200 Ayush wellness centres in the country in FY 2019-20 across several states.

Ayush Minister Shripad Yesso Naik informed the Rajya Sabha that 2,500 new centres are planned to be opened within the first four months of the present government. He said that the government has also provided financial assistance to set up integrated Ayush hospitals in 85 districts across various states, and has plans to add more.

“We have received proposals from various state governments to open 50 more such integrated Ayush hospitals,” Naik said while replying to the debate on working of the Ayush ministry. Highlighting the efforts of the Centre, Naik said the Modi government is trying to encourage traditional medicine systems. “The government is trying to modernise Ayush hospitals across the country and is increasing the number of doctors. It is also modernising postgraduate AYUSH medical colleges,” the minister said.

He said the Centre is encouraging state governments to upgrade infrastructure and improve the financial situation of the Ayush colleges functioning under their control. It is also promoting yoga for healthier life, he said.

Initiating the debate, SP leader Ram Gopal Yadav said, “The government provided around Rs 53,000 crore for Ministry of Health and Rs 1,686 crore for Ministry of Ayush for the last fiscal. Standing Committee has asked to increase the budget for Ministry of Ayush.” Yadav also asked the government to introduce NET like all-India entrance exam for tradition medical education. Echoing his views, Congress member Jairam Ramesh said Ayurveda “will not become great by chanting slogans”, rather it has to be based on modern science and strict clinical trials. He said there is a need for convergence of tradition medical systems with modern science.

Rotavirus vaccination

Centre set to roll out rotavirus vaccination drive in all states by September this year (The Indian Express:20190716)

<https://indianexpress.com/article/lifestyle/health/centre-set-to-roll-out-rotavirus-vaccination-drive-in-all-states-by-september-this-year-5831223/>

Prime Minister Narendra Modi had asked all departments to identify “transformative ideas” for implementation in the first 100 days of government.

As part of the exercise, all 2.6 crore children born in India annually will be eligible to receive free of cost the vaccine that will protect them from diarrhoea.

The Centre is set to roll out rotavirus vaccine in the universal immunisation programme across all states by September 2019. As part of the exercise, all 2.6 crore children born in India annually will be eligible to receive free of cost the vaccine that will protect them from diarrhoea. This is one of the three 100-day targets identified by the Union Health Ministry, sources said.

Prime Minister Narendra Modi had asked all departments to identify “transformative ideas” for implementation in the first 100 days of government.

The vaccine is currently being administered in Himachal Pradesh, Haryana, Odisha, Andhra Pradesh, Assam, Tripura, Rajasthan, Madhya Pradesh and Tamil Nadu. By September, all remaining 25 states and Union Territories will be covered under the programme.

The other two 100-day targets set by the ministry are to start a programme for setting up of at least one medical college or postgraduate medical institute — public or private — in every district in the country. The proposal is currently with the Expenditure Finance Committee for clearance.

The ministry also plans to ban e-cigarettes. The Centre sent an advisory to all states, asking them to not allow “sale, manufacture, distribution, trade import and advertisement” of electronic nicotine delivery systems or e-cigarettes on August 28, 2018, but the advisory has been challenged in court. Hence, there is a need for a complete ban, said sources from the Health Ministry.

Why rotavirus is dangerous

Nine states — Chandigarh, Punjab, Karnataka, Mizoram, Kerala, Jammu and Kashmir, Bihar, Uttar Pradesh and Tamil Nadu — already prohibit the sale, manufacture, distribution and import of e-cigarettes.

According to a report prepared by WHO, e-cigarettes or Electronic Nicotine Delivery Systems (ENDS) emit nicotine, the addictive component of tobacco products. In addition to dependence, nicotine can have adverse effects on the development of the foetus during pregnancy and may contribute to cardiovascular disease.

The WHO report further says that although nicotine itself is not a carcinogen, it may function as a “tumour promoter” and seems to be involved in the biology of malignant disease, as well as of neurodegeneration. Foetal and adolescent nicotine exposure may have long-term consequences for brain development, potentially leading to learning and anxiety disorders. The evidence is sufficient to warn children and adolescents, pregnant women, and women of reproductive age against ENDS and nicotine.

Herbal Drugs

AIIMS says herbal drug used by tribals effective in treating superficial wounds (The Indian Express:20190716)

<https://indianexpress.com/article/cities/delhi/aiims-says-herbal-drug-used-by-tribals-effective-in-treating-superficial-wounds-5831229/>

The drug, AYUSH C1 Oil, used by the tribal population to treat wounds, has been tried on 30 patients who visited AIIMS. As per doctors, the results were found to be effective.

The herbal drug treatment yielded results with zero side-effects, said doctors.
(AP/Representational Image)

In a first, doctors at the All India Institute of Medical Sciences in collaboration with the Ministry of AYUSH have completed the first phase of a herbal drug trial to treat superficial wounds.

The drug, AYUSH C1 Oil, used by the tribal population to treat wounds, has been tried on 30 patients who visited AIIMS. As per doctors, the results were found to be effective.

During the first phase, the doctors opted for regular healing treatment using allopathic medicines on 30 patients, while another batch of 30 patients was treated with the herbal drug. The herbal drug treatment yielded results with zero side-effects, said doctors.

“The herbal drug was discovered by the Ministry of AYUSH and trials began in 2015-2016. We have completed the first phase of the project and will submit a report to the Ministry by the end of this year,” Dr Maneesh Singhal, head, department of plastic, reconstructive and burns surgery, AIIMS, told The Indian Express.

According to the World Health Organisation, 65% of India’s rural population uses Ayurvedic remedies, mostly due to poor access to modern health facilities. The project has been funded by the AYUSH ministry.

“We have tested the drug on superficial wounds and the results have been good. If we measure the results of normal remedy with this herbal drug treatment, then result of the latter is a notch better. No patient has complained of any problem,” said Dr Singhal.

In the last few years, the Ministry of AYUSH has taken a number of administrative and policy measures to mainstream alternative systems of medicine.

On November 9, 2014, the Centre elevated AYUSH to a separate ministry.

On Monday, Rajya Sabha members batted for higher funding for the ministry in a bid to encourage traditional systems of medicine, and stressed that it will benefit millions of people in the country.

“The Government of India is pressing for the use of natural medicines. But in the absence of any evidence, people are still having doubts about effects of herbal medicines. This is a good initiative. Effects of traditional medicines, if proved by science, will give a good push to the specialty which has been around for thousands of years,” said Dr Singhal.

Endometriosis

Endometriosis discovery paves way for non-hormonal treatment (Medical News Today:20190716)

<https://www.medicalnewstoday.com/articles/325754.php>

Scientists have discovered that a certain type of immune cell could be a prime cause of pelvic pain in women with endometriosis. The finding could lead to new treatments for a common condition that affects many millions of women.

New research explores non-hormonal alternatives for relieving the pain of endometriosis.

Endometriosis is a lifelong condition wherein tissue like that which normally lines the uterus also grows outside the organ, typically in the pelvic cavity.

Estimates from the World Endometriosis Research Foundation suggest that endometriosis affects around 176 million women worldwide.

The abnormal growths, or lesions, of endometriosis can cause persistent inflammation, pain, and infertility.

Other symptoms include painful menstruation and ovulation, fatigue, heavy bleeding, and pain during intercourse.

As yet, there is no cure for endometriosis. Surgery can remove some lesions and scar tissue. Hormonal treatments can offer relief from symptoms but often bring side effects after prolonged use. There is an urgent need for non-hormonal drugs.

In the new study, researchers at the Universities of Warwick and Edinburgh, both in the United Kingdom, found the cause of endometriosis pain to be a type of white blood cell called macrophages that have undergone changes as a result of the condition.

The team reports the findings in a recent FASEB Journal paper.

Macrophages stimulate growth of nerve cells

Senior study author Dr. Erin Greaves, who holds positions at both universities, explains that conventional treatments that use hormones are "not ideal" because they target ovarian function and can trigger side effects, such as suppressing fertility.

"We are trying to find non-hormonal solutions," she adds.

What causes pelvic pain in women?

The many causes of pelvic pain in women range from menstrual cramps and painful ovulation to potentially more serious conditions.

The "disease-modified" macrophages stimulate nerve cell growth and activity by releasing the growth hormone insulin-like growth factor-1 (IGF-1).

Previous studies had already shown that macrophages have a central role in the development of endometriosis. The immune cells help the lesions grow and also drive the development of their blood supply.

More recent research has also revealed that macrophages help nerves grow in the lesions.

The aim of the new study, note the authors, "was to determine the mechanistic role of macrophages in producing pain associated with endometriosis."

After running various tests with cells and mice, they suggest that targeting the altered macrophages could be a novel way to treat endometriosis pain.

Paving the way to non-hormonal treatments

Endometriosis lesions attract and contain large numbers of macrophages. The disease environment generates signals that alter the function of the immune cells.

When they examined cell cultures of disease-modified macrophages, the researchers observed how the cells released more IGF-1.

They also found that levels of IGF-1 in pelvic cavity tissue from women with endometriosis were higher than in women without the condition and were in line with their pain scores.

In further cell culture experiments, the researchers showed that adding IGF-1 from macrophages promoted nerve cell growth and activation.

A final set of tests revealed that preventing the hormone's activity by blocking the cell receptor for IGF-1, "reverses the pain behavior observed in mice with endometriosis."

The fact that signals in the local tissue environment can alter macrophage function is not new. However, these findings do shed new light on what happens to macrophages in the specific case of endometriosis.

"If we can learn about the role of macrophages in endometriosis," Dr. Greaves explains, "then we can distinguish them from healthy macrophages and target treatment to them."

"This discovery will go some way toward finding ways to relieve symptoms for women who [live with] endometriosis."

Dr. Erin Greaves

Dementia

Genes vs. lifestyle: Study 'undermines fatalistic view of dementia' (Medical News Today:20190716)

<https://www.medicalnewstoday.com/articles/325755.php>

A new study investigates the effect of leading a healthful lifestyle on people who have a genetic predisposition to developing dementia.

Leading a healthful lifestyle can offset the genetic risk of dementia, according to a new study.

Elzbieta Kuźma, Ph.D., and David Llewellyn, Ph.D., from the University of Exeter Medical School in the United Kingdom, are the joint lead authors of the new research, which appears in the journal JAMA.

Llewellyn, Kuźma, and colleagues also presented their findings at the Alzheimer's Association International Conference 2019, which took place in Los Angeles, CA.

In their paper, the authors explain that while scientists know that genes and lifestyle both significantly affect Alzheimer's risk and the likelihood of other types of dementia, they do not yet know the extent to which making healthful lifestyle choices can offset the genetic risk.

For instance, research has shown that the E4 variant of the gene that encodes the apolipoprotein E raises the risk by threefold if a person inherits one copy and up to 15 times if they have two copies of the gene.

However, a significant body of research also points to the fact that people who do not smoke, are physically active, only consume alcohol in moderation, and follow a healthful diet are at a lower risk of dementia.

So, to find out how lifestyle can influence genetic risk, Llewellyn and colleagues examined data on "196,383 participants of European ancestry aged at least 60 years" who did not have dementia at the start of the study.

Assessing lifestyle and genetic risk

The participants had enrolled in the U.K. Biobank study in 2006–2010, and researchers followed them clinically until 2016–2017.

Llewellyn and team calculated the polygenic risk score for each person. The score "captured an individual's load of common genetic variants associated with Alzheimer's disease and dementia risk."

Regular exercise can keep the body decades younger

Participants in their 70s who had exercised regularly for years were physically just as healthy as people in their 40s.

The researchers considered all of the genetic risk factors for dementia that studies have confirmed so far and calculated the risk according to how strongly these factors correlated with Alzheimer's disease.

Then, they divided the participants into those with "low (lowest quintile), intermediate (quintiles 2 to 4), and high (highest quintile) risk" of dementia.

To assess the participants' lifestyle, the researchers calculated a "weighted healthy lifestyle score" that included smoking status, exercise, diet, and alcohol intake. The score helped categorize participants into "favorable, intermediate, and unfavorable lifestyles."

Genetics do not make dementia inevitable

Throughout the follow-up period, 1,769 cases of dementia occurred. Overall, the research showed that leading a healthful lifestyle correlated with a lower risk of dementia across the board, regardless of genetic risk levels.

More specifically, however, in the high genetic risk group, 1.13% of the participants with a favorable lifestyle developed dementia compared with 1.78% of those with an unfavorable lifestyle.

This translates into an "absolute risk reduction for dementia of a favorable lifestyle compared with an unfavorable lifestyle [of] 0.65%."

"This risk reduction implies that, if lifestyle is causal, one case of dementia would be prevented for each 121 individuals per 10 years with high genetic risk who improved their lifestyle from unfavorable to favorable," explain Llewellyn and colleagues.

"This is the first study to analyze the extent to which you may offset your genetic risk of dementia by living a healthy lifestyle," comments co-lead author Kuźma.

"Our findings are exciting as they show that we can take action to try to offset our genetic risk for dementia. Sticking to a healthy lifestyle was associated with a reduced risk of dementia, regardless of the genetic risk," she continues.

Llewellyn also comments on the empowering impact of the study findings:

"This research delivers a really important message that undermines a fatalistic view of dementia. Some people believe it's inevitable they'll develop dementia because of their genetics. However, it appears that you may be able to substantially reduce your dementia risk by living a healthy lifestyle."

David Llewellyn

Bowel Cancer

Bowel cancer: 3-drug combo may offer alternative to chemo (Medical News Today:20190716)

<https://www.medicalnewstoday.com/articles/325730.php>

Chemotherapy treatment for people who have advanced bowel cancer and a particular genetic mutation is commonly ineffective. A combination of three different drugs could be the key to improved treatment.

New research reveals the power of triple therapy when it comes to tackling aggressive bowel cancer.

The outlook for people with standard bowel cancer — also known as colorectal cancer — and those with an advanced form of the disease can differ greatly.

While more than half of the former tend to survive bowel cancer for 10 or more years, the outlook for the latter can be just a few months if the cancer involves a specific gene mutation.

The BRAF gene is responsible for producing a protein that transmits signals and supports cell growth. But a particular change to this gene — the BRAF V600E mutation — can speed up the spread and growth of certain cancer cells.

Up to 15% of metastatic colorectal cancer (mCRC) patients have the BRAF V600E mutation. Treating this form of cancer is difficult as it can be aggressive and tends not to respond to combination treatments involving chemotherapy.

The potential power of triple therapy

Now a new study has tested a combination of targeted therapies without the chemotherapy. Researchers call this the BEACON CRC Phase III trial.

Their study appears in the *Annals of Oncology* and featured at the ESMO World Congress on Gastrointestinal Cancer 2019.

A mixture of three drugs — two targeting the cancer cells and one inhibiting the BRAF gene — was analyzed on a number of individuals who had not responded to one or two previous treatment regimes.

There were 665 participants in total. Researchers gave some all three drugs: encorafenib, cetuximab, and binimetinib. Others had a double therapy of BRAF inhibitor encorafenib and cancer-treating cetuximab.

Bowel cancer: New biomarker may also boost treatment

A newly discovered protein may improve treatment for colorectal and other cancers.

A third group received a choice of the chemotherapy drug irinotecan or folinic acid, fluorouracil, and irinotecan (FOLFIRI) and cetuximab.

"Colorectal cancer does not respond to BRAF therapy alone because tumor cells adapt through other mechanisms after initial treatment," explains Dr. Scott Kopetz, study author from the University of Texas MD Anderson Cancer Center in Houston.

"With this triple targeted therapy, we are using a very scientifically logical combination to inhibit BRAF and these other mechanisms."

Longer survival and better response

The focus was on triple therapy, and this proved to be the most successful option. While standard therapy gave a general survival rate of 5.4 months, the three-drug combination provided a median survival rate of 9 months.

The response rate showed even greater improvement at 26% for the triple therapy versus just 2% for the standard regime.

The researchers did not compare the triple and double therapies, but the two-drug combination gave a general survival rate of 8.4 months.

Dr. Kopetz describes the findings as "very exciting because we've been trying to target BRAF-mutant colorectal cancer for many years."

"Hopefully, this will soon lead to increased access to this treatment for patients where there is currently such a large unmet need."

A replacement for chemotherapy?

Although future studies will need to look at whether double or triple therapy is best for individuals, researchers believe that the three-drug treatment should replace chemotherapy for those with a BRAF mutation.

"The fact that we can give this targeted combination without the need for chemotherapy is very good news for patients, not least because of the side effects that they typically experience with chemotherapy," notes study co-author and professor Andres Cervantes from the Biomedical Research Institute INCLIVA at the University of Valencia, Spain.

It is also, therefore, "essential that patients are routinely tested" for the mutation.

Prof. Cervantes adds that, for the time being, they should restrict targeted therapy to those individuals treated in the BEACON CRC trial who have progressed after one or two earlier lines of chemotherapy.

"However, it is important that we investigate its use in other settings where more patients with BRAF mutations may also benefit, including those with less advanced metastatic disease and possibly in the adjuvant setting after primary surgery with curative intent."

Prof. Andres Cervantes

Genetic mutation

New psychosis treatment targets genetic mutation instead of symptoms (Medical News Today:20190716)

<https://www.medicalnewstoday.com/articles/325731.php>

A novel treatment that targets the biological effects of a specific genetic mutation could help alleviate the symptoms of psychosis, a new study finds.

Targeting one genetic mutation helped scientists devise an innovative treatment for psychosis.

Deborah L. Levy, Ph.D. — from the McLean Hospital in Belmont, MA — led the new study, the findings of which now appear in the journal *Biological Psychiatry*.

It revealed that people who had additional copies of a certain gene, instead of the regular two, benefited from the treatment.

The mutation, called a copy number variant (CNV), affects the glycine decarboxylase gene.

One hypothesis is that the doubling of this gene might reduce glycine, an amino acid and neurotransmitter in the central nervous system. Researchers believe that a reduction of glycine is a factor in schizophrenia.

Boosting glycine

The new study focused on two participants, a mother and her son, with this particular mutation.

However, the participants did differ clinically; each person presented with distinct clinical symptoms. Also, their conditions did not progress in the same way.

Could a broccoli sprout extract help treat schizophrenia?

A chemical called sulforaphane may improve the symptoms of schizophrenia.

During the course of the study, the participants received glycine and D-cycloserine in addition to their regular medications. Both were meant to boost the participants' glutamate function in hopes of alleviating their symptoms.

These substances would not produce behavioral effects in healthy populations or those without a CNV of this particular gene.

However, for the two participants who had this specific genetic mutation, the treatment alleviated their schizophrenia symptoms, improved their emotional engagement, and boosted their negative mood symptoms.

It also helped decrease their tendency to withdraw from social situations.

Schizophrenia and psychosis

The National Institute of Mental Health define schizophrenia as "a chronic and severe mental disorder that affects how a person thinks, feels, and behaves." Symptoms often start in a person's mid-teens through age 30, and although rare, sometimes the condition can affect younger children, too.

Symptoms fall under one of three categories: positive, negative, or cognitive.

Positive symptoms can include:

hallucinations

agitated bodily movements

delusions

thought disorders or dysfunctional thinking

Negative symptoms are those that disrupt normal emotions and behaviors. These symptoms can include:

reduced facial expression of emotions

lack of pleasure in everyday life

difficulty beginning (or completing) activities

speaking less

Cognitive symptoms affect the thinking process. These symptoms can include:

difficulty understanding information

difficulty making decisions

difficulty focusing

difficulty attention

working memory problems

Schizophrenia might have a genetic component, and it does sometimes run in families — but not always. Scientists also suspect that there needs to be an environmental factor, paired with genetics, for an individual to develop the condition.

These environmental factors may include problems before or during birth, exposure to certain viruses, or psychosocial factors.

The genetic factor may also come into play when someone goes through puberty, as the brain undergoes significant changes during this time of development. This may trigger symptoms in those who have a particular genetic makeup.

Modern treatments tend to focus on managing symptoms. Doctors often prescribe antipsychotic medications, including second generation antipsychotics such as Abilify and Risperdal.

Other therapies include psychosocial treatments, which often come into play when a person finds a medication that works well for them. Psychosocial treatments help people learn to cope with the challenges that schizophrenia presents.

How researchers found a new approach

The new study found a novel treatment for schizophrenia that is relatively unusual in psychiatry; most modern treatments target specific symptoms instead of genetic mutations.

This type of treatment is contingent on a person having the mutations, of course, but this research helps pave the way for future treatments that can help people in different, and better, ways.

"Most studies of rare structural variants will have very small sample sizes, complicating the usual approach to statistical analysis," says study author Charity J. Morgan, from the University of Alabama in Tuscaloosa.

"Nevertheless, because the effects of a targeted treatment can be large, it is important to prioritize opportunities to study even small groups of patients who may benefit."

Hypertension

High blood pressure: Could gut bacteria play a role? (Medical News Today:20190716)

<https://www.medicalnewstoday.com/articles/325687.php>

In this Spotlight feature, we investigate whether the bacteria that live in our guts could influence our blood pressure. If so, could they guide future treatment?

Hypertension is growing in prevalence, but can we blame gut bacteria?

Scientists are growing increasingly interested in the role of gut bacteria.

Each week, journals publish many study papers that examine how these microscopic visitors might play a role in health and disease.

As it stands, because the microbiome is a relatively new field of study, the full scope of gut bacteria's role in health is still up for debate.

However, it is becoming increasingly clear that the bacteria in our gut can open new avenues in our understanding of a wide range of conditions.

Scientists have studied the role of gut bacteria in conditions as varied as obesity, Parkinson's disease, depression, and blood pressure.

This Spotlight focuses on their role in hypertension. Elevated blood pressure is a risk factor for cardiovascular disease and affects almost 1 in 3 adults in the United States.

Because of this, it is vital that medical scientists unearth the various mechanisms that underpin blood pressure regulation.

One study paper puts hypertension's impact into sobering context: "Over 400,000 deaths in the United States are related to [hypertension] every year, more than all the Americans who died through all of World War II."

Beyond standard risk factors

Although researchers have established certain risk factors for hypertension — such as smoking, obesity, and drinking excessive amounts of alcohol — there appears to be more to the condition.

More than 19% of the U.S. adults with hypertension have a treatment-resistant form of the condition, wherein medications do not bring blood pressure down to a healthful level. Also, lifestyle interventions do not work for everyone.

Some scientists are considering dysfunction of the immune system and autonomic nervous system. This is the branch of the nervous system that controls "automatic" functions, such as breathing, digestion, and blood pressure.

A relatively new addition to this list of potential risk factors is gut dysbiosis, which refers to an imbalanced microbial community.

Anxiety: 11 of 21 studies say regulating gut bacteria may help

Anxiety: 11 of 21 studies say regulating gut bacteria may help

One review finds that regulating our microbiome could help relieve the symptoms of anxiety.

A study in the journal *Microbiome* analyzed the gut bacteria of 41 people with ideal blood pressure levels, 99 individuals with hypertension, and 56 people with prehypertension.

Prehypertension refers to high blood pressure that is not yet high enough for a person to receive a diagnosis of hypertension. People in this range have an increased risk of developing hypertension in the future.

They found that in the participants with prehypertension or hypertension, there was a reduction in the diversity of gut bacteria. In particular, species such as *Prevotella* and *Klebsiella* tended to be overgrown.

Next, the scientists transplanted fecal matter from the participants into germ-free mice, which are animals that lack gut bacteria. The mice that received fecal matter from people with hypertension also developed hypertension.

Conversely, the authors of a 2019 study in the journal *Frontiers in Physiology* transplanted feces from mice without hypertension into mice with hypertension. This resulted in a reduction in blood pressure in the mice with hypertension.

Another study investigated the bacterial residents of pregnant women with obesity and overweight pregnant women, both of whom are at increased risk of hypertension. They found that in both sets of participants, bacteria of the genus *Odoribacter* were significantly rarer.

Those with the lowest levels of *Odoribacter* had the highest blood pressure readings.

How do gut bacteria affect blood pressure?

Although evidence is mounting that gut bacteria can influence hypertension, most of the studies to date have been observational.

Anatomy model

From the gut, chemicals can quickly enter the rest of the body.

This means that it has not been possible to determine whether changes in gut bacteria influence blood pressure, or whether hypertension (or the factors that produce it) alter gut bacteria.

Also, it is still unclear exactly how gut bacteria drive these changes.

Although the gut and blood pressure might not seem like obvious companions, the connection is not, perhaps, so surprising.

Many of the factors that increase the risk of hypertension — such as the consumption of alcohol and salty food — enter the body through the digestive system.

Nutrients, along with certain chemicals that bacteria produce, have the opportunity to enter the blood supply; once in circulation, the body is their oyster.

Also, the gastrointestinal tract hosts a number of processes that have the potential to play a role in hypertension, including metabolism, the production of hormones, and a direct connection with the nervous system.

Short chain fatty acids

Some researchers believe that one of the links between the gut and hypertension could be short chain fatty acids (SCFAs). Some gut bacteria produce these molecules as they digest dietary fiber.

After bacteria have produced SCFAs, the host's blood supply absorbs them. SCFAs affect a range of physiological processes, one of which appears to be blood pressure.

Backing this theory up, one study found differences in gut bacterial populations between participants with and without hypertension. Individuals with higher blood pressure had lower levels of certain species that produce SCFAs, including *Roseburia* spp. and *Faecalibacterium prausnitzii*.

One paper in the journal *Hypertension* investigated the role of gut bacteria in sleep apnea-induced hypertension. Sleep apnea is a condition wherein an individual's breathing is disrupted during sleep.

The scientists simulated sleep apnea in rats. To do so, they fed half of the rats a standard diet and the other half a high fat diet. Hypertension only appeared in the rats that ate the fatty diet.

Next, they assessed the mice's microbiome and found that the high fat group had a significant reduction in numbers of bacteria responsible for producing SCFAs.

Finally, the scientists transplanted bacteria from the hypertensive rats into the rats who ate a normal diet and demonstrated normal blood pressure.

This fecal transplant produced hypertension in the previously healthy animals.

Nervous control

Most likely, if gut bacteria truly do have the power to produce hypertension, it is likely to be via a number of interlinked routes. Scientists have several theories. For instance, some experts see a role for the autonomic nervous system.

Nervous system anatomy

How does gut bacteria influence the nervous system?

Studies have shown that hypertension is associated with increased sympathetic nerve activity (a branch of the autonomic nervous system). This increases gut permeability.

If the gut walls become more permeable, it is easier for the gut's contents to leak through into the rest of the body.

This change in permeability impacts the gut environment and alters the microbiome. At the same time, bacterial products can pass more easily into the blood.

Interestingly, other factors — including smoking tobacco and being stressed — also alter the sympathetic system. This could help provide further reasons why these factors can also lead to cardiovascular changes.

A probiotic for hypertension?

Designing a probiotic that reliably reduces high blood pressure will take some time, but some researchers are looking at this option.

A 2013 meta-analysis examined the effect of probiotic fermented milk on blood pressure. In all, they took data from 14 studies, which included 702 participants. Although the authors write that "[s]ome evidence of publication bias was present," they concluded that:

"[P]robiotic fermented milk has blood pressure-lowering effects in prehypertensive and hypertensive [people]."

A 2014 systematic review and meta-analysis investigated probiotics more generally. Its authors only included randomized controlled trials, and their search only turned up nine papers that fit their criteria.

Overall, they concluded, "The present meta-analysis suggests that consuming probiotics may improve [blood pressure] by a modest degree."

They also noted that the effect appeared to be more pronounced for people whose initial blood pressure readings were high, when the study used multiple bacterial species, and when the researchers tested the intervention for more than 8 weeks.

In the current scientific climate, the public has a substantial appetite for probiotics; however, outside of a small number of specific conditions, there is little evidence that they can benefit human health substantially or reliably.

With that in mind, it is likely to be a long time before a probiotic will bring blood pressure down.

For the future

Science is relatively new to the question of gut bacteria's impact on blood pressure, so plenty more work will be needed. Although some evidence now supports the interaction between gut bacteria and hypertension, it is a complex beast to dissect.

Our diet, the drugs we take (particularly antibiotics), other health conditions we might have, and many more variables can all influence our gut bacteria.

Bacteriophages (viruses that attack bacteria), fungi, and parasites also find a home in the gut and influence both bacterial populations and our physiology.

This mystery will only unravel slowly, but at least the wheels of research are now in motion. As one reviewer writes:

"Evidence is rapidly accumulating implicating gut dysbiosis in hypertension. However, we are far from understanding whether this is a cause or consequence of [hypertension], and how to best translate this fundamental knowledge to advance the management of [hypertension]."