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ब्रेस्ट कैंसर

भविष्य में होने वाले ब्रेस्ट कैंसर के खतरे को पहले ही बता देगा ये आर्टिफिशियल इंटेलिजेंस (Dainik Jagran:20190510)

<https://www.onlymyhealth.com/new-ai-tool-can-predict-future-risk-of-breast-cancer-in-hindi-1557408929>

ब्रेस्ट कैंसर के कारण भारत में हर साल हजारों लोगों की मौतें होती हैं। एक अध्ययन के अनुसार हर 8 में से 1 महिला को अपने जीवन में कभी न कभी ब्रेस्ट कैंसर होता है। ब्रेस्ट कैंसर का पता अगर शुरुआती स्टेज में लगाया जा सके, तो इसे आसानी से ठीक किया जा सकता

ब्रेस्ट कैंसर के कारण भारत में हर साल हजारों लोगों की मौतें होती हैं। एक अध्ययन के अनुसार हर 8 में से 1 महिला को अपने जीवन में कभी न कभी ब्रेस्ट कैंसर होता है। ब्रेस्ट कैंसर का पता अगर शुरुआती स्टेज में लगाया जा सके, तो इसे आसानी से ठीक किया जा सकता है। यूएस के मैसेचुसेट्स इंस्टीट्यूट ऑफ टेक्नोलॉजी (एमआईटी) ने एक ऐसे डिवाइस की खोज की है, जो आर्टिफिशियल इंटेलिजेंस की मदद से महिलाओं में होने वाले ब्रेस्ट कैंसर के खतरे को काफी पहले ही पकड़ लेता है।

मैमोग्राफी से ज्यादा सटीक जानकारी देगा ये एआई

इस अध्ययन के लिए वैज्ञानिकों ने डिवाइस को पहले ट्रेन किया और फिर उससे मिलने वाले रिजल्ट्स की प्रमाणिकता की जांच की। इसके लिए लगभग 40,000 महिलाओं के 90,000 से भी ज्यादा फुल रिजॉल्यूशन मैमोग्राम का इस्तेमाल किया गया। मैसेचुसेट्स इंस्टीट्यूट ऑफ टेक्नोलॉजी के प्रमुख

शोधकर्ता और लेखक एडम याला ने कहा, "मैमोग्राम स्कैन में ब्रेस्ट कैंसर की 4 कैटेगरीज से कहीं ज्यादा जानकारीयां छिपी होती हैं, जिन्हें हम आसानी से देख नहीं सकते हैं। मगर आर्टिफिशियल इंटेलिजेंस इन जानकारीयों की मदद से ये पता लगाने में सक्षम है कि किसी महिला को ब्रेस्ट कैंसर का भविष्य में कितना जोखिम है।"

जांच में देरी के कारण बिगड़ जाते हैं मामले

एमआईटी की प्रोफेसर रेजिना बार्जले स्वयं ब्रेस्ट कैंसर की मरीज रही हैं। उन्होंने कहा, "ऐसे सिस्टम की खोज से चिकित्सकों को काफी मदद मिलेगी। ब्रेस्ट कैंसर की जांच में देरी के कारण कई बार इसका इलाज मुश्किल हो जाता है।" एमआईटी द्वारा बनाया गया ये आर्टिफिशियल इंटेलिजेंस टूल पारंपरिक तरीकों के मुकाबले ज्यादा बेहतर तरीके से ब्रेस्ट कैंसर की जांच कर सकता है। अध्ययन के दौरान पारंपरिक तरीकों से जांच करने पर जहां सिर्फ 18% महिलाओं में ब्रेस्ट कैंसर की पुष्टि हुई, वहीं आर्टिफिशियल इंटेलिजेंस से 31% मामलों में बिल्कुल सटीक परिणाम देखे गए। टूल ने इन महिलाओं में हाई रिस्क कैंसर की बात बताई थी, जो बिल्कुल सही थी।

3 तरह के मॉडल से हुई जांच

इस अध्ययन के लिए अध्ययनकर्ताओं ने 3 तरह के मॉडल से रिस्क फैक्टर्स (जोखिम बढ़ाने वाले कारक) की तुलना की। पहला मॉडल ब्रेस्ट कैंसर के पारंपरिक जोखिम कारकों का अध्ययन कर रहा था, दूसरा मॉडल मैमोग्राफी रिपोर्ट का गहराई से अध्ययन कर रहा था और तीसरा मॉडल इन दोनों मॉडल्स से प्राप्त परिणामों का तुलनात्मक अध्ययन कर रहा था।

डायबिटीज

डायबिटीज व वजन को कम करने में फायदेमंद है अमरूद, जानें क्यों (Dainik Jagran:20190510)

<https://www.onlymyhealth.com/benefits-of-eating-guava-for-weight-loss-and-control-diabetes-in-hindi-1557409460>

अमरूद आसानी से पाया जाने वाला एक स्वादिष्ट फल है। इसके अलावा अमरूद कई औषधीय गुणों से भरपूर है। यह पेट की समस्या को ठीक करने के अलावा, सर्दी—जुखाम, सिरदर्द व दांत दर्द में फायदेमंद है। अमरूद में विटामिन, प्रोटीन, आयरन, फोलेट व कैल्शियम

अमरूद एक स्वादिष्ट फल है, जो कई औषधीय गुणों से भरपूर है।

अमरूद इम्युनिटी सिस्टम को बेहतर करता है।

अमरूद का वैज्ञानिक नाम सिडियम गुआवा है।

अमरूद आसानी से पाया जाने वाला एक स्वादिष्ट फल है। इसके अलावा अमरूद कई औषधीय गुणों से भरपूर है। यह पेट की समस्या को ठीक करने के अलावा, सर्दी—जुखाम, सिरदर्द व दांत दर्द में फायदेमंद है। अमरूद में विटामिन, प्रोटीन, आयरन, फोलेट व कैल्शियम जैसे पोषक तत्व पाये जाते हैं। अमरूद का वैज्ञानिक नाम सिडियम गुआवा है। अमरूद कई प्रकार के होते हैं, जैसे— इलाहाबादी सफेदा अमरूद, लाल गूदेवाला अमरूद आदि। अमरूद इम्युनिटी सिस्टम को बेहतर करता है। इसके अलावा केवल अमरूद ही नहीं, बल्कि इसकी पत्तियां भी बहुत ही स्वास्थ्यवर्धक है। अमरूद के पत्तों में एंटीऑक्सीडेंट, एंटीबैक्टीरियल और एंटीइंफ्लेमेटरी गुण होते हैं, जो आपको कई स्वास्थ्य समस्याओं से दूर रखने में मदद करता है। आइए जानते हैं अमरूद आपकी किन—किन समस्याओं में फायदेमंद है।

डायबिटीज के लिए अमरूद

आजकल अधिकतर लोग डायबिटीज की समस्या से परेशान हैं। डायबिटीज एक आम बीमारी बन चुकी है। डायबिटीज में अमरूद ब्लड शुगर को कम करने में मदद करता है। बिना छिलके वाले अमरूद के सेवन से फायदा मिलता है। एंटी:हायपरलिपिडेमिक प्रभाव टाइप—2 डायबिटीज को कम करने में मदद करता है। अमरूद न केवल डायबिटीज बल्कि अन्य कई बिमारियों में फायदेमंद है।

कैंसर के लिए

अमरूद ब्रेस्ट कैंसर और प्रोस्टेट कैंसर के उपचार में फायदेमंद है। इसमें मौजूद एंटीऑक्सीडेंट लाइकोपन और विटामिन—सी उन मुक्त कणों से लड़ते हैं, जो कैंसर कि कैंसर का कारण बनते हैं। इसके अलावा अमरूद में फाइबर भी होता है, जो बवासीर व पेट के कैंसर के खतरे को कम करता है। अध्ययनों के अनुसार अमरूद की पत्तियों से निकलने वाला अर्क कैंसर जैसी जानेवा बीमारी में बचाव करता है।

वजन कंट्रोल

वजन कंट्रोल या वजन घटाने के लिए फलों का सेवन फायदेमंद है। अमरूद में मौजूद फाइबर कंटेंट की वजह से यह आपके वजन को कंट्रोल कर सकता है। इसके अलावा इसमें अन्य खाद्य पदार्थों की तुलना कैलोरी की मात्रा कम होती है।

पाचन तंत्र के लिए अमरूद

अमरूद से आपके पाचन तंत्र को सुधारने में मदद मिलती है। अमरूद में पाये जाने वाले फाइबर के कारण यह दस्त, अपच, गैस व पेट संबंधी समस्याओं में आराम देता है। अमरूद में मौजूद रोगाणुरोधी गुणों की वजह से यह आंत के रोगाणुओं से भी लड़ने और दस्त को रोकने में मदद करता है।

आंखों की रौशनी

आजकल छोटी उम्र में बच्चों की आंखें कमजोर होना आम समस्या हो गई है। ज्यादा देर तक टीवी, कंप्यूटर, मोबाइल व कम रौशनी में पढ़ाई, पौष्टिक आहार की कमी के कारण आंखें कमजोर हो जाती हैं। अमरूद को यदि आप अपने आहार में शामिल करते हैं, तो इसमें मौजूद विटामिन—ए आंखों की रौशनी को बढ़ाने में मदद करता है। इसके अलावा इस फल में विटामिन—सी भी भरपूर मात्रा में होता है, जो आंखों के रौशनी तेज करने में सहायक होता है।

बुखार और दस्त

गर्मी के कारण बढ़े बुखार और दस्त के मामले, प्लेटलेट्स घटना है इन बीमारियों का संकेत (Dainik Jagran:20190510)

<https://www.onlymyhealth.com/fever-loose-motion-body-pain-and-low-platelets-count-can-be-sign-of-diarrhea-and-typhoid-in-hindi-1557385870>

मौसम बदलते ही बुखार, जुकाम आदि समस्याएं शुरू हो जाती हैं। उत्तर भारत में इन दिनों भीषण गर्मी पड़ रही है। कई शहरों में दिन का तापमान 45-46 डिग्री सेल्सियस से ज्यादा दर्ज किया गया है। ऐसे में अस्पतालों में टायफाइड और डायरिया के मरीजों की संख्या तेजी

लगातार 2 दिन बुखार और शरीर में दर्द की समस्या को न करें नजरअंदाज।

गर्मी में बढ़ रहे हैं बुखार, दस्त और प्लेटलेट्स घटने के मामले।

चिकित्सक से जानें कैसे करें गर्मी में इन रोगों से बचाव।

मौसम बदलते ही बुखार, जुकाम आदि समस्याएं शुरू हो जाती हैं। उत्तर भारत में इन दिनों भीषण गर्मी पड़ रही है। कई शहरों में दिन का तापमान 45-46 डिग्री सेल्सियस से ज्यादा दर्ज किया गया है। ऐसे में अस्पतालों में टायफाइड और डायरिया के मरीजों की संख्या तेजी से बढ़ रही है। दिल्ली और आस-पास के राज्यों में अस्पतालों में आजकल ऐसे हजारों मरीज आ रहे हैं, जिन्हें लगातार बुखार, शरीर में दर्द और पतले दस्त की शिकायत है। जांच करने पर इनमें से ज्यादातर मरीजों के खून में प्लेटलेट्स की कमी पाई गई है। चिकित्सकों का कहना है कि गर्मी बढ़ने के साथ ही इन रोगों के मरीज और ज्यादा बढ़ेंगे।

छोटे बच्चे हो रहे हैं ज्यादा प्रभावित

चिकित्सकों की मानें तो डायरिया सबसे ज्यादा छोटे बच्चों को प्रभावित कर रहा है। भारत में बढ़ी हुई शिशु मृत्यु दर का एक प्रमुख कारण डायरिया है। हर साल 25 हजार से ज्यादा बच्चों की मौत डायरिया के कारण हो जाती है। चिकित्सकों के अनुसार डायरिया का खतरा गर्मी और बरसात के मौसम में अधिक बढ़ जाता है। डायरिया के शुरुआती लक्षण बच्चों को बार-बार पतले दस्त और पेट दर्द हैं।

तेज धूप के कारण हीट स्ट्रोक का खतरा

सिद्धार्थनगर, उत्तर प्रदेश के चिकित्साधिकारी डॉक्टर राम आशीष बताते हैं कि गर्मी के मौसम में कड़ी धूप और उमस के कारण हीट स्ट्रोक के मामले बढ़ रहे हैं। पानी कम पीना, गलत खान-पान और देर तक कड़ी धूप में काम करने के कारण लोग लू और मौसमी बीमारियों का शिकार हो जाते हैं। इसके अलावा इस मौसम में मच्छरों के कारण फैलने वाली बीमारियां भी बढ़ जाती हैं। इन बीमारियों से बचाव के लिए जरूरी है कि बच्चों को धूप में बाहर न निकलने दें, तरल पदार्थों का सेवन ज्यादा करें और मच्छरों से बचाव के लिए सुरक्षित तरीके अपनाएं।

डायरिया से बचाव के लिए क्या करें

डायरिया से बचाव के लिए आपको गर्मी के मौसम में कुछ बातों का ध्यान रखना जरूरी है-

बाहर खुले में मिलने वाली चीजों का सेवन बंद करें।

हमेशा ताजा खाना खाएं, 6 घंटे से पहले का बना खाना खाएं।

बाजार में बिकने वाले गन्ने का जूस, बेल का जूस, आम पना आदि का सेवन करते समय ध्यान दें कि दुकान के आसपास सफाई हो और मक्खियां आदि न हों।

इसे भी पढ़ें:- किडनी रोग के मरीज गर्मी में बरतें ये 4 सावधानियां, बढ़ जाता है खतरा

मांसाहारी आहारों का सेवन कम करें और कोशिश करें कि इन्हें घर पर ही सफाई के साथ बनाएं। मांस बैक्टीरिया से जल्दी प्रभावित होते हैं। बाजार में मिलने वाले मांसाहारी आहार संक्रमित हो सकते हैं।

साफ पानी पिएं और पानी रखने वाले बर्तन की रोजाना सफाई करें।

अधिक देर के कटे हुए सलाद, फल आदि न खाएं। सब्जियों को पकाने से पहले साफ पानी में अच्छी तरह धोएं।

लापरवाही से दवाएं बन रहीं जहर

हिन्दुस्तान

विशेष

नई दिल्ली | स्कन्द विवेक धर

देश में बिक रही दवाएं खराब रखरखाव से जानलेवा बनती जा रही हैं। निर्माताओं से लेकर, होलसेलर्स और रिटेलर्स की दुकानों में भी दवाओं का रखरखाव संतोषजनक स्थिति से कोसों दूर है।

मेडिकल स्टोर्स में खराब रखरखाव से दवाओं का असर कम होने, यहां तक नुकसानदायक होने तक का खतरा रहता है। देश के दवा नियामक सीडीएससीओ ने संसद की कमेटी ऑन सर्वॉर्डिनेट लेजिसलेशन को सौंपे अपने जवाब में यह सच्चाई स्वीकार की है।

सीडीएससीओ ने अपने जवाब में कहा है कि निर्माता, होलसेलर और रिटेलर किसी भी स्तर पर दवाओं का रखरखाव ठीक ठंग से नहीं कर रहे हैं। मसलन दवाओं को जितने तापमान पर रखना चाहिए, उससे अधिक तापमान पर दवाएं रखी जाती हैं। दवा के भंडारण में आद्रता के स्तर का भी ध्यान नहीं रखा जाता। जबकि दवा की गुणवत्ता बनाए रखने के लिए जरूरी है कि उनका भंडारण दवा के मानक के अनुरूप हो।

ड्रग इंस्पेक्टर्स की कमी : सीडीएससीओ ने ड्रग इंस्पेक्टर्स की कमी को भी स्वीकार करते हुए कहा है कि माशलेकर कमेटी की सिफारिशों के

खराब रखरखाव का असर

दवा विशेषज्ञ एवं मंथली इंडेक्स ऑफ मेडिकल स्पेशियलिटी के संपादक डॉक्टर सीएम गुलाटी के मुताबिक, किसी भी दवा की एक वर्ष से लेकर पांच वर्ष के बीच शेल्फ आयु होती है। यह आयु उस दवा के लिए तय रखरखाव मानक के हिसाब से होता है। यदि रखरखाव ठीक नहीं है तो दवा की आयु कम हो जाती है। इससे दवा का असर कम हो जाता है और कई मामलों में दवा समय से पहले ही एक्सपायर भी हो जाती है।



भारत के नियमों में भी कमी

डॉक्टर गुलाटी ने कहा कि किसी भी दवा की आयु फार्माकोपिया में निर्धारित होती है। भारत में खुद का कोई शोध नहीं हो रहा है, इसलिए हमने अमेरिका, ब्रिटेन और यूरोप की फार्माकोपिया को ही स्वीकार कर रखा है। जबकि इन देशों में अमेरिका को छोड़ दें तो कहीं भारत जैसी गर्मी नहीं पड़ती। ऐसे में हमारे यहां स्वीकृत दवाओं की शेल्फ आयु वैसे ही उतनी कारगर नहीं रहती। इसके अलावा, इसका लीगल पक्ष देखें तो दवाओं को कूल और ड्राई प्लेस पर रखने का नियम है। यह अस्पष्ट है, क्योंकि जो तापमान जैसलमेर के लिए कूल कहा जाएगा, शिमला में वह गर्म होगा। दवाओं के लिए तय तापमान का साफ जिक्र होना चाहिए।

18 से 30 डिग्री तापमान होना चाहिए

- दवा के रखरखाव के लिए 18 से 30 डिग्री सेल्सियस तापमान होना चाहिए
- इससे अधिक तापमान होने पर दवा खराब हो सकती है। गुणवत्ता में कमी होगी
- इंजेक्शन को 2 से 12 डिग्री सेल्सियस तापमान पर रखा जाना चाहिए
- 4 से 5 दिन तक इंजेक्शन अधिक तापमान में रहने पर 50 फीसदी तक असर खो देती है
- एंटीबायोटिक्स सीरप में हो तो खुलने के बाद दस दिन के अंदर तक ही सही हालत में रहता है
- गर्मी में तो तेजी से इसका असर कम होता है। सीरप को हमेशा फ्रिज में ही रखें

इंसुलिन वैकसीन या जीवन रक्षक दवा फ्रिज में नहीं रखी जाए तो कोल्ड चेन टूटने के बाद इस दवा का प्रयोग करने पर यह बेअसर साबित होती है। उस फ्रिज का तापमान दो डिग्री से 8 डिग्री सेल्सियस रखा जाता है, जिसमें टीकों का भंडारण किया जाता है। दवाओं को नियमानुसार कोल्ड चेन में रखा जाना चाहिए। - डॉक्टर सुबोध कुमार, मेडिसन विभाग, आरएमएल

मुताबिक, 200 केमिस्ट शॉप और 50 निर्माण संयंत्र पर एक इंस्पेक्टर होना जरूरी है। देश में मौजूद 8 लाख केमिस्ट

शॉप और 10 हजार निर्माण संयंत्र के हिसाब से देश में 4200 ड्रग इंस्पेक्टर होने चाहिए, जबकि फिलहाल देश में

ड्रग इंस्पेक्टरों के 1600 पद स्वीकृत हैं, इसमें भी 1200 पदों पर ही ड्रग इंस्पेक्टर मौजूद हैं।

व्यायाम

व्यायाम के फायदे: आपकी याददाश्त और काम करने की क्षमता को बढ़ाती है सिर्फ 30 मिनट की कसरत (Hindustan:20190510)

<https://www.livehindustan.com/lifestyle/story-exercise-benefits-of-regular-physical-activity-2520249.html>

आजकल की भागदौड़ वाली जिंदगी के चलते लोगों की जीवनशैली काफी बिगड़ गई है। इसका सीधा असर शारीरिक और मानसिक सेहत पर पड़ रहा है। याद करने की शक्ति कमजोर हो रही है। लेकिन, थोड़ी से कसरत के जरिए सेहत को दुरुस्त किया जा सकता है। एक अध्ययन में पता चला है कि केवल 30 मिनट की कसरत से याददाश्त को तेज किया जा सकता है।

मस्तिष्क के कार्य करने की क्षमता बढ़ती है

जाहिर है कि अमूमन लोग कुछ-न-कुछ बहाना बनाकर रोजाना की कसरत को टाल देते हैं। हालांकि, शोधकर्ताओं का कहना है कि केवल 30 मिनट कसरत करने से आप अपनी याददाश्त में सुधार कर सकते हैं। इसके साथ ही मस्तिष्क के काम करने के तरीका को भी बदला जा सकता है। स्वास्थ्य अधिकारी नियमित रूप से व्यायाम करने की सलाह देते हैं। लगभग ढाई घंटे आसान गतिविधियों जैसे तेज चलने या बागवानी करने से वृद्ध वयस्कों का दिमाग और शरीर स्वस्थ रहता है।

हेल्थ टिप्स: मशरूम में छिपा है पोषण का खजाना, जानें इसके फायदे

न्यू यूनियर्सिटी ऑफ मैरीलैंड के शोधकर्ताओं ने व्यायाम का याददाश्त पर असर जानने के लिए 50 से 58 वर्ष की आयु के लगभग 26 वयस्कों पर शोध किया। शोध में पाया कि महज तीस मिनट का व्यायाम याददाश्त तेज करने के लिए मस्तिष्क की गतिविधि को बढ़ाता है। इससे किसी भी बात को बेहतर ढंग से याद रखने में मदद मिलती है।

उम्र बढ़ने पर कम होती है याददाश्त:

सेंटर फॉर डिजीज कंट्रोल एंड प्रिवेंशन के मुताबिक, 60 से अधिक उम्र के 13 फीसदी लोग जब कुछ याद करने की कोशिश करते हैं तो उन्हें कुछ याद ही नहीं आता। ऐसा उनके साथ कई बार हो चुका है। सेंटर के मुताबिक, लोगों में अल्जाइमर का खतरा काफी तेजी से बढ़ रहा है, जो स्वास्थ्य के लिए बेहद चिंताजनक है। 60 से 70 वर्ष की उम्र के बीच सिर का अग्र भाग और हिप्पोकैम्पस (मस्तिष्क में एक

छोटी और घुमावदार संरचना जो नई यादों को निर्मित करती है) सिकुड़ने लगते हैं जिससे नई यादों के बनने में मुश्किल पैदा होती है।

- 60 से 70 वर्ष की उम्र में सिकुड़ने लगती हैं मस्तिष्क की कोशिकाएं.

- 60 से अधिक उम्र के 13 फीसदी लोग बीती बातें याद करने में असमर्थ.

शोधकर्ताओं का कहना है कि अलग-अलग समय पर अलग तरह की यादें बनती हैं। इनका अपना ही महत्व होता है। इनको हमेशा याद रखने का एक अच्छा तरीका व्यायाम है। शारीरिक गतिविधियां मस्तिष्क पर सकारात्मक असर डालती हैं। हार्वर्ड हेल्थ ब्लॉग के मुताबिक, नियमित व्यायाम से मस्तिष्क की कोशिकाओं पर सुरक्षात्मक प्रभाव पड़ता है। इससे सोचने की क्षमता विकसित होती है।

Air Pollution

Air quality 'very poor' as dust hits capital, storm likely today (Hindustan Times:20190510)

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

The air quality index (AQI) was recorded as 347 with the prominent pollutant being PM 10. n Possibility of thunderstorm, gust on Friday. n Friday temp was 41.8°C

From page 01 NEW DELHI: Air quality in the national capital deteriorated to 'very poor' category on Thursday.

Dust blowing over the north western region in the country was the major factor for the deterioration in the air quality, said Safar, the central government's air quality forecasting agency.

The air quality index (AQI) was recorded as 347 with the prominent pollutant being PM 10, which is mainly dust.

An AQI between 0 and 50 is considered 'good', 51 and 100 'satisfactory', 101 and 200 'moderate', 201 and 300 'poor', 301 and 400 'very poor', and 401 and 500 'severe'.

The air quality is expected to get better with the possibility of thunderstorm and gusty winds hitting the city on Friday evening, said a statement released by Safar.

“Air quality in the city is expected to remain at the upper end of the very poor category till Friday afternoon. However, thunderstorm and gusty winds triggered by an approaching Western Disturbance are expected to clear the air as well as bring the mercury down,” the statement said.

Delhi has been witnessing hot and dry days with the maximum temperature soaring to 43.7 degrees Celsius on April 30.

The maximum temperature on Friday was recorded as 41.8 degrees Celsius, three notches above normal.

The minimum settled at 26.4 degrees C, two notches above normal.

Parkinson's disease

Risk of Parkinson's more for those who got appendix removed (New Kerala:20190510)

<https://www.newkerala.com/news/read/139912/risk-of-parkinsons-more-for-those-who-got-appendix-removed.html>

Washington D.C. , May 9 : Patients who had their appendix removed were more than three times as likely to develop Parkinson's as those who had not, according to a recent study.

Analysis of over more than 62 million patients records studying the relationship between the gut and the debilitating nervous system disorder revealed that patients who had an appendectomy are more likely to develop Parkinson's disease than those whose appendix remained in place.

"Recent research into the cause of Parkinson's has centred around alpha synuclein, a protein found in the gastrointestinal tract early in the onset of Parkinson's. This is why scientists around the world have been looking into the gastrointestinal tract, including the appendix, for evidence about the development of Parkinson's," explained lead author, Mohammed Z. Sheriff in the Meeting of Digestive Disease Week

Previous findings on appendectomies and Parkinson's have been inconsistent, with some studies showing no relationship.

Researchers analysed and identified those who had appendectomies and were diagnosed with Parkinson's disease at least six months later for the study.

They found that among 488,190 patients who had undergone appendectomies, 4,470, or .92 per cent, went on to develop Parkinson's.

Of the remaining 61.7 million patients without appendectomies, they identified only 177,230, or .29 per cent, who developed the disease.

Researchers found similar risk levels across all age groups, regardless of gender or race.

"This research shows a clear relationship between the appendix, or appendix removal, and Parkinson's disease, but it is only an association. Additional research is needed to confirm this connection and to better understand the mechanisms involved," Dr Sheriff concluded.

Trauma

Childhood traumas may worsen lupus symptoms: Study (New Kerala:20190510)

<https://www.newkerala.com/news/read/139891/childhood-traumas-may-worsen-lupus-symptoms-study.html>

Washington D.C. , May 9 : Traumas such as abuse, neglect and other Adverse Childhood Experiences (ACE) can worsen symptoms of lupus and lead to organ damage, depression and declining health status, claims a new study.

Lupus is a skin condition marked by inflammation.

According to a study by Arthritis Care and Research, adults with lupus, higher ACE levels, as well as the presence of ACEs from each of the three domains - abuse, neglect and household challenges- were associated with worst patient-reported accounts of suffering from organ damage, depression, physical function and overall bad health status.

In the study involving 269 patients, over 60 per cent identified at least one adverse childhood experience, and more than 15 per cent indicated at least four adverse childhood experiences.

"More than half of the participants with lupus reported ACE exposure, many of whom experienced substantial trauma in childhood. There is a clear difference in patient-reported outcomes with cumulative ACE exposure in these individuals," said lead author Dr Kimberly DeQuattro.

"This work in lupus supports more broadly the body of studies on adversity and trauma in childhood that has found a link between ACEs and health. It is a call to action to focus efforts on ACE prevention in childhood as well as clinical and mental health interventions that foster resilience in adulthood," DeQuattro said.

Inflammatory bowel disease

Inflammatory bowel disease during childhood linked to higher cancer rates: Study (New Kerala:20190510)

<https://www.newkerala.com/news/read/139864/inflammatory-bowel-disease-during-childhood-linked-to-higher-cancer-rates-study.html>

Washington D.C. , May 9 : A recent study has revealed that individuals who suffered from inflammatory bowel disease including ulcerative colitis and Crohn's disease during childhood are at an increased risk of cancer and early death.

Ulcerative colitis affects the large intestine and causes irritation and swelling called inflammation whereas Crohn's disease is a chronic inflammatory bowel disease (IBD) characterised by inflammation that responds to tissue injury ultimately causing redness, swelling, and pain.

According to the study published in the Journal of Alimentary Pharmacology and Therapeutics, researchers diagnosed patients with ulcerative colitis and Crohn's disease before 18 years of age.

Over a follow-up of 9.6 years, 72 patients developed cancer and 65 died. Most cancers were in the small or large intestine, but there were also cases of lymphomas and skin melanomas.

Patients diagnosed with ulcerative colitis during childhood had 2.5-times higher risk of developing cancer and a 3.7-times higher risk of dying during follow-up compared with the general population.

For Crohn's disease, the risk was 2.6-times higher for cancer and 2.2-times higher for death compared to the general population. The main causes of death were cancer, suicide, and infections.

The findings stress the importance of cancer surveillance for young patients with Ulcerative colitis or Crohn's disease. Also, the increased risk of suicide found in the study highlights the need to assess patients' mental health.

Smoking

Childhood maltreatment can lead to e-cigarette use during young adulthood: Study (New Kerala:20190510)

<https://www.newkerala.com/news/read/139792/childhood-maltreatment-can-lead-to-e-cigarette-use-during-young-adulthood-study.html>

Washington D.C. , May 9 : Young adults who experienced maltreatment as children are more prone to use e-cigarettes, researchers have claimed.

In a study conducted on 208 individuals aged between 18-21 years, childhood maltreatment was related to negative urgency or the tendency to act rashly when distressed. This, in turn, was associated with higher use of e-cigarettes.

According to the study published in the Journal of American Journal on Addictions Keywords, the impulsive nature of negative urgency may link childhood maltreatment to e-cigarette use as children get older.

"Many young adults who have experienced abuse or neglect in their childhood struggle with substance abuse. Our study looked at e-cigarette use specifically and found that an individual's childhood maltreatment experiences might play a role in their use of e-cigarettes during their transition to adulthood," said lead author Dr Sunny H. Shin.

Obesity

Global obesity rising faster in rural areas than cities: Study (New Kerala:20190510)

<https://www.newkerala.com/news/read/139757/global-obesity-rising-faster-in-rural-areas-than-cities-study.html>

Washington D.C. , May 9 : According to a recent study, obesity is increasing more rapidly in the world's rural areas than in the cities.

As part of the study, a team of researchers analysed the height and weight data of more than 112 million adults across urban and rural areas of 200 countries and territories between 1985 and 2017.

Height and weight can be used to calculate BMI, an internationally recognised scale which tells us whether an individual has a healthy weight for their height.

The study, involving a network of more than 1000 researchers across the world, found that from 1985 to 2017, BMI rose by an average of 2.0 kg/m² in women and 2.2 kg/m² in men globally, equivalent to each person becoming 5-6 kg heavier.

More than half of the global rise over these 33 years was due to increases in BMI in rural areas. In some low- and middle-income countries, rural areas were responsible for over 80 per cent of the increase.

The team found that since 1985, average BMI in rural areas has increased by 2.1 kg/m² in both women and men. But in cities, the increase was 1.3 kg/m² and 1.6 kg/m² in women and men respectively.

These trends have led to striking changes in the geography of BMI over the three decades. In 1985, urban men and women in over three quarters of the countries had a higher BMI than their rural counterparts. Over time, the gap between urban and rural BMI in many of these countries shrank or even reversed.

"The results of this massive global study overturn commonly held perceptions that more people living in cities are the main cause of the global rise in obesity. This means that we need to rethink how we tackle this global health problem," Majid Ezzati said.

The team found important differences between high-, middle-, and low-income countries. In high-income countries, the study showed that BMI has been generally higher in rural areas since 1985, especially for women.

The findings suggest this is due to the disadvantages experienced by those living outside cities lower income and education, limited availability and higher price of healthy foods, and fewer sports and leisure facilities.

"Discussions around public health tend to focus more on the negative aspects of living in cities. In fact, cities provide a wealth of opportunities for better nutrition, more physical exercise and recreation, and overall improved health. These things are often harder to find in rural areas," Ezzati explained.

Meanwhile, rural areas in low- and middle-income countries have seen shifts towards higher incomes, better infrastructure, more mechanised agriculture and increased car use, all of which bring numerous health benefits, but also lead to lower energy expenditure and to more spending on food, which can be processed and low-quality when sufficient regulations are not in place. All these factors contribute to a faster increase in BMI in rural areas.

"As countries increase in wealth, the challenge for rural populations changes from affording enough to eat, to affording good quality food," Ezzati added.

Stress

Stress in early life may lead to depression (New Kerala:20190510)

<https://www.newkerala.com/news/read/139511/stress-in-early-life-may-lead-to-depression.html>

London, May 9 : People who take stress in early life are at risk of developing negative thinking which could lead to major depressive disorder (MDD), says a study.

"This study supports a wider body of literature which suggests that depression may develop from an interesting yet complex interaction between biological and psychological processes," said study lead author Emma Robinson, Professor at the University of Bristol in Britain.

"As we start to understand these better we hope that the knowledge we generate can be used to better guide current and future treatments," Robinson said.

Using a rodent model of early life adversity, the study showed that offspring are much more sensitive to negative biases in their cognition when treated with the stress hormone, corticosterone.

Published in the journal Neuropsychopharmacology, the research showed a dose of corticosterone had no effect on normal rats but caused a negative bias in the early life adversity animals.

The study also found that the early life adversity rats were less likely to anticipate positive events and failed to properly learn about reward value.

These impairments in reward-related cognition are particularly interesting as one of the main features of depression is a loss of interest in previously enjoyable activities.

The researchers suggest that these neuropsychological effects might explain why early life adversity can make people more likely to develop depression.

Hypertension

Can drinking mineral-rich water prevent hypertension? (Medical News Today:20190510)

<https://www.medicalnewstoday.com/articles/325139.php>

Could adding calcium and magnesium to drinking water be a practical way to lower high blood pressure in people who live in areas where drinking water is deficient in these minerals?

Could drinking higher-salinity water help lower blood pressure?

A recent study has linked drinking water of higher salinity to lower blood pressure in people living in a coastal region of Bangladesh. Sources of drinking water in the region can vary in salinity due to the influx of seawater.

While water of higher salinity contains more sodium, which can raise blood pressure, it also has more calcium and magnesium. The researchers explain this in a Journal of the American Heart Association paper about the study.

"Calcium and magnesium are protective; they decrease blood pressure," says lead study author Abu Mohammed Naser, who is a postdoctoral fellow in the Rollins School of Public Health at Emory University in Atlanta, GA.

He and his co-authors attribute the study's findings to the benefits of magnesium and calcium outweighing the harms of sodium.

Data on water salinity, blood pressure limited

High blood pressure, or hypertension, is the "leading preventable cause" of early deaths worldwide, according to a 2016 Circulation study that estimated that 1.39 billion people were living with the condition in 2010.

Having blood pressure that is too high increases the force that circulating blood exerts on artery walls. If the condition persists, it can damage the heart and raise the risk of stroke and other health problems.

This unlikely culprit may cause drug-resistant high blood pressure

A study of male veterans links buildup of lead in the body to increased risk of high blood pressure that is hard to treat.

According to the Centers for Disease Control and Prevention (CDC), there are around 75 million adults with high blood pressure in the United States, where the condition contributed to or caused more than 410,000 deaths in 2014.

Studying people who live in coastal regions offers a useful way to compare the effects of varying water salinity on health.

Naser and his colleagues note that groundwater is the main source of drinking water for more than 1 billion people who live in coastal regions.

Of this population, around a fifth live in areas in which seawater flows into groundwater, giving rise to varying levels of mineralization.

However, they note that data on "drinking water salinity, mineral intake, and cardiovascular health of the population," are limited.

Calcium and magnesium 'counteract' sodium

Their analysis took in data from two studies that had kept track of people in various parts of coastal Bangladesh. The measurements covered periods in which the salinity of drinking water varied as a result of monsoons and dry weather.

The team found that people who drank water of mild or moderate salinity had more sodium in their urine than people who drank fresh water of low salinity. Also, those with higher levels of urinary sodium also had higher systolic blood pressure.

In addition, the analysis revealed that those who drank water of mild and moderate salinity had higher levels of calcium and magnesium in their urine. Having higher levels of these minerals has associations with lower systolic and diastolic blood pressure.

For example, people who drank "mildly-salinated" water had an average systolic blood pressure that was 1.55 of mercury (mm Hg) lower and an average diastolic blood pressure that was 1.26 mm Hg lower than those who drank fresh water.

Systolic blood pressure is the pressure of blood in arteries during a heartbeat while diastolic is the pressure between heartbeats. Systolic is typically the higher of the two numbers.

The authors hypothesize "that the [blood pressure]-lowering effects of [calcium] and [magnesium] counteracted the harmful effects of [sodium] [...]."

They cite studies that have found similar effects in other parts of the world. Some of these studies have linked drinking calcium- and magnesium-rich water to a reduction in deaths due to cardiovascular causes.

Proving the case for fortifying drinking water

Dr. Robert M. Carey, who is a professor of medicine at the University of Virginia in Charlottesville, helped to produce the American Heart Association (AHA) and the American College of Cardiology's latest guidelines on blood pressure. He was not involved in the study and made some comments about it.

He notes that while the reductions in blood pressure are not great, they are large enough to make a difference, and therefore, these results warrant further investigation.

He continues, "I think it's pretty clear from many different studies that a small reduction in blood pressure, done consistently, can have a major impact in reducing cardiovascular disease and stroke."

He points out that the study does not show that adding calcium and magnesium to drinking water actually lowers blood pressure. It is for further studies, conducted in clinical settings, to investigate this, he explains.

If further research indeed establishes that fortifying drinking water with calcium and magnesium can lower blood pressure, then that could be a completely new approach to dealing with hypertension as a public health issue.

The convention until now, Dr. Carey explains, has been to "wait until someone becomes hypertensive" and then proceed with lifestyle changes and drug treatments to help them manage their blood pressure. "I think we need to do both," he suggests.

The AHA recommend that people should get the vitamins and minerals that they need by following a healthful diet. The Academy of Nutrition and Dietetics also support this and do not recommend the use of supplements as a way to protect against chronic disease.

However, the researchers point out that most people in the U.S. do not meet the daily recommended intake for minerals: they don't eat sufficient amounts of the foods that are rich in them.

Naser states that depleting mineral levels in the soil due to "over-farming" and alteration in rainfall from climate change may also be a factor. Fortifying drinking water with beneficial minerals could make up the shortfall, he suggests.

He also points out that the body absorbs minerals better from drinking water than from food, where their "bioavailability" could be lower.

The authors conclude:

"Ensuring optimum concentrations of [calcium] and [magnesium] in drinking water may be an important public health and nutritional intervention to ensure fulfillment of daily requirements of these essential macro-minerals since evidence suggests that globally, concentrations of these minerals are decreasing in the diet."

Alcohol

Global alcohol intake has increased by 70%, study warns (Medical News Today:20190510)

<https://www.medicalnewstoday.com/articles/325135.php>

A large new study published in The Lancet found that, across the globe, rates of individual alcohol consumption have soared. This, the authors warn, is a dangerous pattern that policymakers must address.

People around the world are drinking more alcohol than they were almost 30 years ago.

New research conducted by a team of investigators from the Centre for Addiction and Mental Health, in Toronto, Canada, and the Technische Universität Dresden, in Germany, has revealed that people consume more alcohol, on a global level, compared with nearly 30 years ago.

Not only this, but the current upward trend is set to continue over the next few decades, according to the study authors' estimates.

"Our study provides a comprehensive overview of the changing landscape in global alcohol exposure," explains first author Jakob Manthey.

The research — the findings of which appear in The Lancet — analyzes trends in alcohol intake in 189 countries from 1990–2017 and estimates the rates through to 2030.

Manthey and the team analyzed levels of alcohol consumption per capita (per individual), as well as the implications of this consumption, working with data sourced by the World Health Organization (WHO) and the Global Burden of Disease study.

Moreover, the researchers tried to find out how many people had never drunk alcohol and how many qualified as "binge drinkers," defined by an intake of 60 grams of pure alcohol or more at a single sitting.

For this side of their analysis, they used data for the same period, 1990–2017, collected through surveys in 149 countries, for nondrinkers, and in 118 countries, for binge drinkers.

Finally, the team looked at estimates of gross domestic product in all 189 countries, as well as other relevant information, to try and gauge how alcohol drinking patterns might evolve until 2030.

Steep increase in alcohol consumption

The researchers' findings reveal some worrying — also surprising — trends. They found that, while patterns of alcohol consumption have not changed much in high-income countries, low- and middle-income regions are seeing a staggering increase.

At the global level, the team found that the total volume of alcohol consumed per year increased by as much as 70% between 1990 and 2017, from 20,999 million liters per year to 35,676 million liters per year.

"Before 1990, most alcohol was consumed in high-income countries, with the highest use levels recorded in Europe. However, this pattern has changed substantially, with large reductions across Eastern Europe and vast increases in several middle-income countries, such as China, India, and Vietnam," explains Manthey.

Moreover, he adds, "This trend is forecast to continue up to 2030, when Europe is no longer predicted to have the highest level of alcohol use."

In Europe, alcohol consumption — among adults, per capita, per year — decreased by 12%, from 11.2 liters to 9.8 liters between 2010 and 2017. The same figure increased by 34% in Southeast Asian countries, from 3.5 liters to 4.7 liters.

'Even moderate alcohol consumption increases stroke risk'

Researchers warn that people who drink even modest amounts of alcohol have increased cardiovascular risk.

Over the same time period, alcohol consumption saw a small increase, from 9.3 liters to 9.8 liters, in the United States, and from 7.1 liters to 7.4 liters in China, though it decreased in the United Kingdom, from 12.3 liters to 11.4 liters.

The researchers also observe that in most of the countries that they studied, the volume of alcohol consumed seemed to increase at a faster rate than the number of drinkers, suggesting that the average volume of alcohol intake per individual is set to rise.

More specifically, alcohol consumption per capita is likely to increase from 5.9 liters of pure alcohol per year in 1990 to 7.6 liters in 2030.

By that point in time, the investigators add, about half of all adults around the world will consume alcohol, and 23% of adults will engage in binge drinking at least once every month.

And since alcohol is a known risk factor for numerous health problems, the global burden of disease will, most likely, also increase.

Economic growth may explain global trends

"Alcohol use is prevalent globally, but with clear regional differences that can largely be attributed to religion, implementation of alcohol policies, and economic growth," says Manthey.

"Economic growth seems to explain the global increase in alcohol use over the past few decades. For example, the economic transitions and increased wealth of several countries — in particular the transitions of China and India — were accompanied by increased alcohol use."

Jakob Manthey

Moreover, the first author notes, "The growing alcohol market in middle-income countries is estimated to more than outweigh the declining use in high-income countries, resulting in a global increase."

The researchers are also particularly concerned about the fact that large policymakers will likely not manage to achieve their goals of reducing dangerous alcohol consumption rates at a global level.

"Based on our data, the WHO's aim of reducing the harmful use of alcohol by 10% by 2025 will not be reached globally," warns Manthey.

"Instead," he goes on, "alcohol use will remain one of the leading risk factors for the burden of disease for the foreseeable future, and its impact will probably increase, relative to other risk factors. Implementation of effective alcohol policies is warranted, especially in rapidly developing countries with growing rates of alcohol use."

Considering the current trends, the research team argues that countries and policymakers should up their games when it comes to prevention, calling for strategies such as increased taxation on alcoholic drinks and reducing the availability of alcohol as much as possible.

Infectious disease

Where antibiotics fail, 'bacteria-eating' viruses may prevail (Medical News Today:20190510)

<https://www.medicalnewstoday.com/articles/325132.php>

Antibiotic-resistant bacteria can cause infections that are very difficult to treat, and they may sometimes put a person's life in danger. However, a creative new approach may offer a potent weapon against these "superbugs."

Bacteriophages (depicted above) are viruses that can infect and destroy bacteria. Could they hold the answer to antibiotic resistance?

The recent publication of several scientific reports suggesting that many bacterial strands are developing resistance to antibiotics points to the emergence of a global crisis.

As more and more dangerous bacteria become unresponsive to strong antibiotics, researchers have started looking for alternative means of fighting these "superbugs."

Recent studies have investigated the usefulness of some surprising therapies against antibiotic-resistant bacteria, including using a specific bacterium that lives in Irish soil and experimenting with new drug combinations.

Now, researchers at the University of Pittsburgh in Pennsylvania and the Howard Hughes Medical Institute (HHMI) in Chevy Chase, MD, provide evidence that a different approach can offer an effective way of fighting off dangerous bacterial infections.

Prof. Graham Hatfull, who works at the University of Pittsburgh and at the HHMI, and his team have been studying a type of biological infectious agent called "bacteriophages," or simply "phages."

Bacteriophages — a name that literally means "bacteria-eating" — are viruses that target, infect, and destroy different strains of bacteria. Previous research co-authored by Prof. Hatfull suggests that there are an estimated 10³¹ bacteriophage particles on the planet.

Different phages target different bacterial strains, however. For this reason, identifying which agent matches which bacterium can be a challenging trial and error task.

Reviving an old idea

Using bacteriophages to fight off infections, an approach called "phage therapy," is by no means a new idea. In fact, this notion has been on researchers' radars for close to 100 years.

British, French, and Russian scientists were already experimenting with phages in a clinical setting at the beginning of the 20th century.

Fish slime: An answer to antibiotic resistance?

Researchers recently turned to fish slime in their search for a better way to tackle superbugs.

However, scholars explain that the initial enthusiasm regarding the potential of phage therapy fell flat for many years. This was, in part, due to the limited knowledge and scientific resources available to researchers at that time.

Now, though, the interest in phage research may be reemerging in full force thanks to one recent therapeutic success.

Prof. Hatfull and team explain — in a study paper that appears in the journal *Nature Medicine* — that, by using carefully selected phages, they were able to treat a severe infection experienced by a 15-year-old patient with a complex medical history.

The patient had cystic fibrosis, an incurable genetic condition that causes a buildup of thick mucus, especially — though not only — in the lungs. This, in turn, leads to susceptibility to infections.

In 2017, they presented at Great Ormond Street Hospital (GOSH) in London, United Kingdom, to undergo a double lung transplant.

However, not long after the procedure, the patient's doctors noticed that the surgery wound looked red and raw, that they had a liver infection, and that several nodules had formed on their body. Those nodules contained bacteria that were trying to "surface" through the skin.

Using viruses to attack bacteria

The scientists collaborated with the doctors at GOSH to look for bacteriophages that would attack the specific bacterial strains infecting the 15-year-old patient in question as well as another young person with cystic fibrosis. The other patient had also undergone a double lung transplant and had a severe infection.

The researchers responded to the doctors' appeals; the two young patients did not respond to any of the antibiotics they received.

These infections, the researchers note, were not new; the patients had first developed them many years before but had kept them under control until their surgeries, when they flared up dangerously.

"These bugs didn't respond to antibiotics. They're highly drug-resistant strains of bacteria," says Prof. Hatfull. So, he explains, the scientists decided to try "[using] bacteriophages as antibiotics — as something we could use to kill bacteria that cause infection."

Prof. Hatfull's main interests are the study of phages and the treatment of tuberculosis (TB), which is a bacterial infection that mainly settles in the lungs. His London-based colleagues got in touch because, as it happened, both of their young patients had infections caused by strains of *Mycobacterium*, which is also involved in TB.

The doctors sent Prof. Hatfull samples of the bacterial strains responsible for the patients' infections so that he and his collaborators could identify which phages would be able to attack and destroy them.

Within a few months, they found the set of phages that could match the bacteria infecting one of the patients. However, this initial discovery came too late; the patient had died earlier that same month.

'Uncharted territory'

When it came to identifying the phages that may be able to help the 15-year-old patient, the search was not so smooth. To begin with, the team found three potentially useful bacteriophages. However, it turned out that only one was effective in infecting the targeted bacteria.

The solution that Prof. Hatfull and team then came up with was to modify the genomes of the two less effective phages to render them fully effective against the bacteria they needed to attack.

Once they identified a mix that was both effective and safe, they liaised with the doctors, who then administered it to the patient twice daily. Each dose contained a billion phage particles.

After 6 weeks of this innovative treatment, the doctors saw that the patient's liver infection had all but disappeared. Currently, the physicians report that only a couple of the telltale nodules remain.

Prof. Hatfull and his team are especially pleased about the fact that the bacteria they targeted have not, so far, developed resistance to the phages the researchers used to attack them. This means that this approach may be one that doctors could continue to use in treating severe, resistant infections.

Nevertheless, the scientists note that it remains challenging to identify the right phage mix to treat individual bacterial infections. Much work is yet to be done in terms of finding the best phage therapies.

"We're sort of in uncharted territory."

Prof. Graham Hatfull

Physical fitness

Physical fitness might protect against lung and bowel cancers (Medical News Today:20190510)

<https://www.medicalnewstoday.com/articles/325131.php>

A recent study of a large and diverse group of people supports the idea that being physically fit can help protect against cancer.

Physically fit people may be at lower risk of developing some types of cancer.

Working with the Henry Ford Health System in Detroit, MI, researchers from Johns Hopkins School of Medicine in Baltimore, MD, saw how the fittest adults had the lowest risk of lung and colorectal cancer.

Their analysis also linked higher fitness before diagnosis to better survival among those who did develop lung or colorectal cancer.

The study used data on 49,143 health system patients who had undergone exercise stress tests of fitness between 1991 and 2009.

The composition of the group was 46% female, 64% white, 29% black, and 1% Hispanic.

The researchers believe that this is the first time that such a study has included women and covered such a large proportion of individuals who were not white.

"Our findings," says first study author Dr. Catherine Handy Marshall, who is an assistant professor of oncology at Johns Hopkins School of Medicine, "are one of the first, largest, and most diverse cohorts to look at the impact of fitness on cancer outcomes."

Need to study impact of fitness on cancer

Around half a million people living in the United States today have received a diagnosis for lung cancer at some time during their lives, according to figures published online by the American Lung Association.

According to 2016 figures, deaths to the disease have fallen by 6.5% since they peaked in 2005. However, lung cancer remains the leading cause of cancer deaths in the U.S.

Estimates suggest that lung cancer caused 154,050 deaths in the U.S. in 2018, which is around 25% of all cancer deaths.

The American Cancer Society (ACS) state that colorectal cancer is the third most common cause of cancer deaths in the U.S.

Cancer: Highly personalized therapy can improve outcomes

A recent study suggests that people who receive highly personalized combination therapy for cancer may experience improved disease control and survival rates.

The ACS estimate that around 145,600 people in the U.S. will receive a diagnosis of colorectal cancer in 2019, and that the disease will be responsible for 51,020 deaths.

Cardiorespiratory fitness offers an objective way to assess people's "habitual physical activity." It is also a useful measure for diagnosing and predicting health.

Most people can improve their cardiorespiratory fitness with regular exercise. Also, there is "convincing evidence" that moderate and high levels of fitness can reduce men and women's risk of death from all causes and cardiovascular causes.

Yet, as Dr. Handy Marshall and her colleagues point out, there is little information on the relationship between cardiorespiratory fitness and risk and survival in lung and colorectal cancer.

Fitness related to lower risk

Their study participants, aged 40–70 years old, did not have cancer when they underwent fitness assessments. The assessments had measured cardiorespiratory fitness in metabolic equivalents of task (METs).

Over a median follow-up of 7.7 years, the investigators retrieved information on cancer incidence from links to the cancer registry and on deaths from the National Death Index.

For the analysis, the team put the participants in groups according to the METs value of their stress test: 6 METs and under, 6-9 METs, 10-11 METs, and 12 METs and over.

The investigators found that the fittest individuals (with a METs score of 12 and over) had a 77% lower risk of developing lung cancer and a 61% reduced risk of developing colorectal cancer compared to the least fit (6 METs and under).

In their analyses, the researchers adjusted the results to remove the effects that other factors, such as sex, race, age, body mass index, diabetes, and smoking, might have on the relationship. And, in the case of colorectal cancer, they also adjusted the results for aspirin and statin use.

Better odds of survival

The results also revealed that among individuals diagnosed with lung cancer or colorectal cancer, those with the highest level of cardiorespiratory fitness had a reduced risk of dying during the follow-up of 44% and 89% respectively.

The authors conclude that, in what they believe to be the "largest study performed to date," higher levels of cardiorespiratory fitness were "associated with a lower risk of incident lung and colorectal cancer in men and women, and a lower risk of all-cause mortality among those diagnosed with lung or colorectal cancer."

As the study was not of a design that can draw such a conclusion, the team could not say that improving fitness actually reduces risk and improves survival in these cancers. It remains for other studies to pursue this question.

Dr. Handy Marshall remarks that it is now common for doctors to measure cardiorespiratory fitness as part of clinical assessments.

"Many people might already have these results and can be informed about the association of fitness with cancer risk in addition to what fitness levels mean for other conditions, like heart disease."

Dr. Catherine Handy Marshall

Diet/ Nutrition

Does soy protein reduce 'bad' cholesterol? The debate continues (Medical News Today:20190510)

<https://www.medicalnewstoday.com/articles/325123.php>

There is an ongoing debate surrounding soy protein and its influence on cholesterol. A new meta-analysis digs into the existing data and concludes that the protein does, indeed, reduce levels of "bad" cholesterol.

Edamame soy beans

Soy protein and cholesterol: The debate rages on.

Soy protein is derived from soybeans. It is high in protein but contains no cholesterol and only low levels of saturated fat.

Soybeans are among the few vegetable-based foods that contain all of the essential amino acids.

As it stands, the Food and Drug Administration (FDA) includes soy protein in its list of foods that can lower cholesterol.

However, they are considering removing it from this list because studies have provided inconsistent results.

If the FDA do remove it, manufacturers who market products that include soy would no longer be able to label them as heart-healthy. The FDA are basing their potential change in stance on the findings of 46 trials.

Recently, researchers — many from St. Michael's Hospital in Toronto, Canada — decided to revisit the data and run a meta-analysis on the papers in question.

Revisiting the soy debate

Of the 46 studies that the FDA had chosen, 43 provided enough data to be added to the scientists' analysis. In total, 41 studies looked specifically at low-density lipoprotein (LDL) cholesterol, commonly called bad cholesterol.

LDL cholesterol earns its bad name because, when it builds up in arteries, it increases the risk of stroke and heart disease. Any food that can reduce this risk is of great interest.

The authors recently published the results of their analysis in *The Journal of Nutrition*. They conclude:

"Soy protein significantly reduced LDL cholesterol by approximately 3–4% in adults. Our data support the advice given to the general public internationally to increase plant protein intake."

Although the effect size seems small, the results are significant. The authors also believe that, in the real world, the effect may be stronger. They argue that when someone adds soy protein to their diet, in most cases, it will replace other sources of protein that have high levels of LDL cholesterol, such as meat and dairy.

Dr. David Jenkins, who led the study, explains, "When one adds the displacement of high saturated fat and cholesterol-rich meats to a diet that includes soy, the reduction of cholesterol could be greater."

A study published in 2010 examines this displacement. The authors concluded that when combining direct LDL reduction from soy protein with displacement, overall, LDL cholesterol would be reduced by 3.6–6.0%.

Limitations and high hopes

As the authors of the recent investigation explain, a significant limitation of their research is that it only looked at a small subset of relevant studies. However, the purpose of this study was to test the strength of the FDA's conclusions using the very data that they had used to draw their conclusions.

The authors write that "These data were extracted by the FDA as representing those trials on which a final decision would be made concerning the soy protein health claim. Because we are addressing the question raised by the FDA, our inclusion criteria included only those trials selected by the FDA."

A soy-based diet could help strengthen bones

A recent study concludes that eating soy could strengthen bones in women of all ages.

It is also worth noting that the studies that the scientists analyzed only used a total of 2,607 participants; of these, only 37% were men. Also, the majority of women that were involved in these trials were postmenopausal. In other words, the demographics of the studies do not match the demographics of the public at large.

However, to reiterate, the main thrust of this study was not to collate all relevant data; it was specifically designed to test the FDA's change in stance.

Dr. Jenkins concludes simply, "The existing data and our analysis of it suggest soy protein contributes to heart health."

Other official bodies, including Heart UK, the European Atherosclerosis Society, the National Cholesterol Education Program, and the Canadian Cardiovascular Society include soy protein as a heart-healthy food.

The authors hope that the FDA will consider their meta-analysis when discussing whether to keep soy protein in their heart-healthy category.