



## DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY  
Monday 20211011

### हृदय गति

**धूम्रपान और रक्तचाप ही नहीं प्रदूषण से भी बना रहता है हृदय गति रुकने का खतरा (Hindustan: 20211011)**

<https://www.livehindustan.com/lifestyle/story-not-only-smoking-and-blood-pressure-air-and-sound-pollution-can-also-keeps-the-risk-of-heart-failure-4796609.html>

हाल ही में एक अध्ययन से पता चला है कि अगर आप सालों से वायु प्रदूषण और यातायात के शोर के बीच रहते हैं तो हृदय गति रुकने का खतरा बढ़ सकता है। अगर आप धूम्रपान करते हैं और रक्तचाप के शिकार हों तो ये जोखिम और भी गंभीर हो जाता है। इस अध्ययन के निष्कर्ष जर्नल आफ द अमेरिकन हार्ट एसोसिएशन में प्रकाशित हुए हैं।

डेनमार्क की यूनिवर्सिटी ऑफ कोपेनहेगन में पब्लिक हेल्थ डिपार्टमेंट के प्रोफेसर और शोधकर्ता योन ही लिम का कहना है कि अध्ययन के निष्कर्ष के आधार पर लोगों में हृदय गति रुकने के जोखिम को कम करने के लिए बताए गए फैक्टर्स (कारकों) को लेकर रणनीति बनाई जानी चाहिए, ताकि उनका असर कम किया जा सके।

इस अध्ययन में डेनमार्क की 22 हजार से अधिक नर्सों का डेटा इकट्ठा किया। नर्सों से प्रश्नावली भरवाई गई, जिसमें उनके बॉडी मास इंडेक्स, लाइफस्टाइल, स्मोकिंग, शराब पीने, फिजिकल एक्टिविटी, खानपान, पहले की हेल्थ और कामकाज की स्थिति के बारे में सवाल किए गए थे।

निष्कर्ष में पाया गया कि तीन साल तक फाइन पार्टिकुलेट मैटर में 5.1 यूजी प्रति घन मीटर की वृद्धि से हृदय गति रुकने की घटना में 17 फीसदी वृद्धि हुई। जबकि नाइट्रोजन डाइआक्साइड में 8.6 यूजी प्रति घन मीटर की वृद्धि से हृदय गति रुकने की घटना 10 फीसदी बढ़ी।

## कोरोना

**अमेरिकी संक्रमण रोग विशेषज्ञ का कहना, सर्दियों में कोरोना मृत्यु दर में हो सकती है कमी (Hindustan: 20211011)**

<https://www.livehindustan.com/lifestyle/story-us-infectious-disease-expert-anthony-fauci-says-there-may-be-a-decrease-in-corona-mortality-during-winter-season-4796738.html>

अमेरिका के शीर्ष संक्रामक रोग विशेषज्ञ एंथनी फौसी ने कहा कि इस सर्दी के मौसम में कोरोना संक्रमण से होने वाली मौतों की संख्या में कमी आने की उम्मीद है। अमेरिका के राष्ट्रपति के मुख्य चिकित्सा सलाहकार व संक्रामक रोग विशेषज्ञ एंथनी फौसी ने एक साक्षात्कार में कहा कि मुझे विश्वास है कि ठंड के मौसम में आप संक्रमण से अस्पताल में भर्ती होने मामलों में गिरावट के समान ही इससे होने वाली मौतों के आंकड़ों में भी कमी देखेंगे।

हालांकि यह कई परिस्थितियों पर निर्भर करने वाला है। जिसमें ठंड की तीव्रता, कितने लोग घर के अंदर से काम करते हैं और वह कोरोना संक्रमण से बचाव के लिए कितने दिशा-निर्देशों का पालन करते हैं, यह शामिल है।

फौसी ने अपने साक्षात्कार में कोरोना टीका लगवा चुके समेत सभी को बाहरी समारोहों के दौरान आवश्यक रूप से मास्क पहनने की सलाह दी। उन्होंने कहा कि सौभाग्य से अभी पिछले कुछ हफ्तों में हमने संक्रमण से अस्पताल में भर्ती होने के मामलों में गिरावट देखी है। हालांकि अभी भी संक्रमण से मृत्यु दर अधिक है।

सितंबर में संक्रामक रोग विशेषज्ञ ने चेतावनी दी थी कि अमेरिका में कोरोना का डेल्टा स्वरूप प्राथमिक चिंता का विषय बना हुआ है। जून में कोरोना संक्रमण मरीजों में इसकी हिस्सेदारी 13.5 फीसदी से बढ़कर 98 फीसदी तक हो गई थी।

गौरतलब है कि अमेरिका में कोरोना से मरने वालों की संख्या दुनिया के सभी देशों में सबसे अधिक है। जॉन्स हॉपकिन्स विश्वविद्यालय के नवीनतम आंकड़ों के अनुसार, महामारी की शुरुआत के बाद से अमेरिका में कोरोना संक्रमण के 44.3 मिलियन मामले सामने आए हैं, जिसमें 712,000 लोगों की मौत हुई।

इस आर्टिकल को शेयर करें

**देश में बीते 24 घंटों में आए कोरोना के 18 हजार मामले, 193 लोगों की मौत (Dainik Jagran: 20211011)**

[https://www.jagran.com/news/national-coronavirus-india-update-india-reports-18-thousand-new-covid19-cases-193-deaths-in-the-last-24-hours-22102810.html?itm\\_source=website&itm\\_medium=homepage&itm\\_campaign=p1\\_component](https://www.jagran.com/news/national-coronavirus-india-update-india-reports-18-thousand-new-covid19-cases-193-deaths-in-the-last-24-hours-22102810.html?itm_source=website&itm_medium=homepage&itm_campaign=p1_component)

भारत में कोरोना संक्रमण का कहर अब पहले से काफी कम हो गया है। लगातार चौथे दिन कोरोना मामले घटे हैं। स्वास्थ्य मंत्रालय की ओर से सोमवार सुबह जारी किए गए आंकड़ों के अनुसार पिछले 24 घंटे में 18132 नए कोरोना केस आए।

नई दिल्ली, एएनआइ।, देश में कोरोना महामारी का कहर अब पहले से काफी कम हो गया है। देश में लगातार चौथे दिन कोरोना के मामले घटे हैं। देश में बीते 24 घंटों में कोरोना के 18 हजार मामले सामने आए हैं। इस दौरान 200 से कम लोगों की मौत हुई है। केंद्रीय स्वास्थ्य मंत्रालय की ओर से सोमवार सुबह जारी आंकड़ों के मुताबिक, देश में पिछले 24 घंटों में 18,132 नए कोरोना मामले सामने आए। इस दौरान 193 कोरोना मरीजों की मौत हो गई है। वहीं 24 घंटे में 23,624 लोग कोरोना से ठीक भी हुए हैं।

देश में कोरोना की वर्तमान स्थिति

कोरोना महामारी की शुरुआत से लेकर अब तक देश में कुल तीन करोड़ 39 लाख से अधिक लोग संक्रमित हुए हैं। इनमें से 4 लाख 50 हजार 782 लोगों की मौत हो चुकी है। अच्छी बात ये है कि अबतक 3 करोड़ 32 लाख 93 हजार 478 लोग ठीक भी हुए हैं। देश में कोरोना एक्टिव केस की संख्या करीब दो लाख है। कुल 2 लाख 27 हजार 347 लोग अभी भी कोरोना वायरस से संक्रमित हैं, जिनका इलाज चल रहा है।

केरल में आए 10 हजार नए मामले

केरल में रविवार को कोविड के 10,691 नए मामले सामने आने के साथ ही कुल संक्रमितों की संख्या बढ़कर 47 लाख 85 हजार से ऊपर पर पहुंच गयी है। जबकि राज्य में महामारी से 85 और मरीजों की मौत के बाद मृतकों की तादाद बढ़कर 26 हजार से पार हो गई है। केरल में पांच अक्टूबर को 9,735 नए मामले सामने आए थे, जिसके बाद यह छह अक्टूबर को बढ़कर 12,616 हो गए थे। राज्य में सात अक्टूबर को 12,288 नए मामले सामने आए और आठ अक्टूबर को यह घटकर 10,944 हो गए।

देश में नहीं है कोयले की कमी, बिजली संकट की आशंका गलत

अंधेरे में नहीं डूबेगा देश, कोयले की कमी से बिजली संकट को सरकार ने बताया गलत

कोरोना के कुल मामले- तीन करोड़ 39 लाख

कुल एक्टिव केस- दो लाख 27 हजार 347

कुल मौत- चार लाख 50 हजार 782

कुल टीकाकरण- 95 करोड़ 19 लाख 84 हजार 373

**कोविड महामारी के दौरान भारतीयों ने स्वास्थ्य को दी प्राथमिकता, जानिए और क्या कहता है ये सर्वे (Dainik Jagran: 20211011)**

<https://www.jagran.com/news/national-indians-gave-priority-to-health-during-the-covid-pandemic-know-what-else-this-survey-says-22100588.html>

73 फीसद भारतीय उपभोक्ता यह महसूस करते हैं कि महामारी ने उनके मानसिक स्वास्थ्य को प्रभावित किया

सर्वे के दौरान 93 फीसद भारतीयों ने नई कार खरीदने के बजाय मजबूत मानसिक स्वास्थ्य को प्राथमिकता देने जबकि 89 फीसद ने अपना पसंदीदा टीवी शो छोड़ने की बात कही। 80 फीसद ने कहा कि उन्होंने महामारी के दौरान मानसिक स्वास्थ्य संसाधनों का लाभ उठाया।

नई दिल्ली, आइएनएस। कोविड-19 महामारी के दौरान करीब 85 फीसद भारतीयों ने पिछले वर्षों के मुकाबले सेहत से जुड़ी सामग्री पर ज्यादा खर्च किए। अमेरिकन एक्सप्रेस की तरफ से जारी रिपोर्ट 'एमेक्स ट्रेंडेक्स' में बताया गया है कि अमेरिका आने वाले करीब दो हजार सामान्य यात्रियों तथा भारत, जापान, आस्ट्रेलिया, मेक्सिको, ब्रिटेन व कनाडा से आने वाले करीब एक हजार यात्रियों पर अध्ययन किया गया।

इसमें पाया गया कि 73 फीसद भारतीय उपभोक्ता यह महसूस करते हैं कि महामारी ने उनके मानसिक स्वास्थ्य को प्रभावित किया। चाहे इसकी वजह आइसोलेशन से जुड़े प्रतिबंध हों या स्वस्थ रहने की चिंता। इसलिए, भारतीय शारीरिक व मानसिक सेहत के लिए ज्यादा समय व धन का निवेश कर रहे हैं।

सर्वे के दौरान 93 फीसद भारतीयों ने नई कार खरीदने के बजाय मजबूत मानसिक स्वास्थ्य को प्राथमिकता देने, जबकि 89 फीसद ने अपना पसंदीदा टीवी शो छोड़ने की बात कही। 80 फीसद ने कहा कि उन्होंने महामारी के दौरान मानसिक स्वास्थ्य संसाधनों का लाभ उठाया। 59 फीसद लोगों ने प्राकृतिक विटामिन व सप्लीमेंट पर, 56 फीसद ने सेहत से जुड़े उपकरणों की खरीद पर, 58 फीसद ने आर्गेनिक फूड पर, जबकि 43 फीसद ने व्यायाम पर ज्यादा खर्च करने की बात कही।

मानसिक स्वास्थ्य के लिए 43 फीसद लोगों ने व्यायाम करने, 34 फीसद ने संगीत सुनने, 32 प्रतिशत ने दिनभर के काम के बीच में ब्रेक लेने व करीब 32 फीसद ने ध्यान लगाने जैसे विकल्प आजमाए।

अमेरिका, ब्रिटेन और भारत समेत कई देशों में तेजी से फैली ये महामारी

बता दें कि साल 2020 के शुरुआत से आई कोरोना महामारी से विश्व के अधिकतर देश बुरी तरह से प्रभावित हुए हैं। अमेरिका, ब्रिटेन, रूस, ब्राजील और भारत समेत कई देशों में कोरोना से मरने वालों की संख्या ज्यादा है। कोरोना से निपटने के लिए अभी भी सारे देश एकजुट होकर काम कर रहे हैं। सभी देश अपने स्तर पर कोरोना का टीकाकरण कार्यक्रम चला रहे हैं।

## हेल्थ इंश्योरेंस पॉलिसी

**हेल्थ इंश्योरेंस पॉलिसी में डेंगू बीमारी को कवर करने के क्या हैं फायदे (Dainik Jagran: 20211011)**

<https://www.jagran.com/business/biz-what-are-the-benefits-of-covering-dengue-disease-in-a-health-insurance-policy-22063108.html>

मानसून के मौसम में डेंगू सबसे खतरनाक बीमारियों में से एक है। अस्पताल में भर्ती होने से महंगा बिल आएगा। आपकी स्वास्थ्य बीमा पॉलिसी में डेंगू को कवर करने के लाभ यहां दिए गए हैं। डेंगू बीमारी ऐसी बीमारी है जिसका खतरा वैसे तो पूरे साल रहता है

ब्रांड डेस्क। डेंगू बीमारी ऐसी बीमारी है, जिसका खतरा वैसे तो पूरे साल रहता है, लेकिन बरसात के मौसम में यह प्रचंड रूप धारण कर लेती है। यह बीमारी एडीज प्रजाति के मच्छरों के काटने से फैलती है। हर साल इस बीमारी से लाखों लोग प्रभावित होते हैं, जिसमें बच्चे, बुढ़े, जवान सब शामिल हैं। यह बीमारी लगातार बढ़ रही है। 2019 में देश में डेंगू के 1.57 लाख मामले दर्ज किए गए, जो 2018 में 1.01 लाख मामलों से काफी अधिक है। यह बीमारी इतनी बड़ी है कि स्थानीय सरकार और नगर निगम को लोगों को जागरूक करने के लिए समय-समय बड़े स्तर पर अभियान चलाना पड़ता है।

डेंगू बीमारी से कैसे निपटें

बरसात का मौसम आते ही जगह-जगह जल जमाव और गंदे पानी की वजह से मच्छरों का पनपना तेजी से शुरू हो जाता है और यही चीज डेंगू बीमारी के फैलने का सबसे बड़ा कारण है। इसलिए घर में और अपने आसपास पानी का जमाव न होने दें और साफ सफाई का पूरा ध्यान दें। हालांकि, यह बीमारी

कभी भी और किसी को भी हो सकती है, ऐसे में आप अपने पास एक ऐसी हेल्थ इंश्योरेंस पॉलिसी रख लें, जो डेंगू बीमारी के इलाज को कवर करती हो। रिलायंस जनरल इंश्योरेंस (Reliance General Insurance) आपको यह सुविधा देता है।

हेल्थ इंश्योरेंस पॉलिसी में डेंगू बीमारी को शामिल करने के क्या हैं फायदे

1. अधिकतर मामलों में डेंगू बीमारी घर पर ही ठीक हो जाती है। लेकिन हमने कई गंभीर केस भी देखे हैं, जहां मरीज को अस्पताल में भर्ती करना पड़ता है। अस्पताल में जाने का मतलब है भारी भरकम मेडिकल बिल। इसमें बेड और दवाईयों के खर्च लगातार बढ़ते हैं। मरीज के ब्लड प्लेटलेट्स जब तक उचित स्तर पर न आ जाए तब तक उसका इलाज चलता रहता है। अगर आपके पास डेंगू बीमारी को कवर करने वाली एक हेल्थ इंश्योरेंस पॉलिसी होगी, तो आप इस तरह के खर्चों से खुद को बचा सकते हैं।

2. इसके कवर में अस्पताल में भर्ती होने से पहले होने वाले मेडिकल खर्च, अस्पताल में भर्ती होने पर खर्च और अस्पताल में भर्ती होने के बाद होने वाले मेडिकल खर्च शामिल होता है।

3. इसके अलावा इसके कवर में वो मरीज भी शामिल होते हैं, जो गंभीर स्थिति में नहीं है और घर पर रहकर डेंगू बीमारी इलाज करा रहे हैं। इसमें उन्हें डॉक्टर कंसल्टेशन, डायग्नोस्टिक टेस्ट, सभी तरह की दवाईयां, होम नर्सिंग आदि सुविधा मिलती है। हालांकि, पॉलिसी लेने से पहले आप इसकी पूछताछ जरूर करें।

4. हेल्थ इंश्योरेंस पॉलिसी लेने वाला हर व्यक्ति चाहता है कि उसे प्रीमियम कम से कम देना पड़े और ज्यादा से ज्यादा बीमारी उसकी पॉलिसी में कवर हो। डेंगू हेल्थ इंश्योरेंस पॉलिसी का प्रीमियम बहुत कम होता है। वैसे, यह बीमारी ज्यादातर कॉम्प्रिहेंसिव हेल्थ इंश्योरेंस पॉलिसी के तहत ही कवर हो जाती है और इसके लिए आपको अलग से प्रीमियम देने की जरूरत नहीं है।

जैसे अगर आप रिलायंस जनरल इंश्योरेंस का होस्पी केयर इंश्योरेंस पॉलिसी (Hospice Care Insurance) लेते हैं तो यह पॉलिसी दूसरे रोगों के अलावा डेंगू रोग में आपके मेडिकल और अस्पताल के खर्चों को कवर करती है। इस पॉलिसी के तहत मरीज को डेली हॉस्पिटलाइजेशन कैश बेनिफिट मिलता है। इसमें डेली केयर ट्रीटमेंट कैश, सर्जिकल कैश, हॉस्पिटल डेली कैश शामिल है। इसमें यदि मरीज डेंगू, मलेरिया या चिकनगुनिया के कारण अस्पताल में तीन दिनों से अधिक समय तक भर्ती रहता है, तो उसे ₹20,000 की एकमुश्त राशि का भुगतान किया जाता है। अभी यह पॉलिसी 30% डिस्काउंट के साथ मिल रही है। वर्तमान में इसका क्लेम सेटलमेंट रेशियो 98% है। इसके

अलावा इस पॉलिसी में आपको और भी कई फायदे मिलते हैं। आप रिलायंस जनरल इंश्योरेंस की वेबसाइट पर जाकर इसके और फायदों के बारे में जान सकते हैं और इस पॉलिसी को खरीद भी सकते हैं।

कोई भी व्यक्ति यह नहीं चाहता कि किसी भी बीमारी की वजह से उसे अस्पतालों के दर्शन हो। क्योंकि अस्पताल में इलाज कराने का खर्च और दवाइयों का खर्च इतना ज्यादा होता है कि हमारी कमाई भी कम पड़ जाती है। इसलिए स्वास्थ्य विशेषज्ञ और वित्तीय योजनाकार हर व्यक्ति को हेल्थ इंश्योरेंस पॉलिसी लेने की सलाह देते हैं। डेंगू बीमारी ऐसी है, जिसमें मरीज को कई-कई दिनों तक अस्पताल में रहना पड़ता है, जिसकी वजह से दवाइयां और दूसरे मेडिकल खर्च बढ़ने लगते हैं। इसलिए महत्वपूर्ण हो जाता है कि आप अपने पास एक अच्छी हेल्थ इंश्योरेंस पॉलिसी रख लें। यह आपको वित्तीय सुरक्षा प्रदान करेगी।

## **मानसिक स्वास्थ्य**

**World mental health day: इन दो उपायों से दूर होगी तनाव-चिंता की समस्या, मनोचिकित्सक का सुझाव (Amar Ujala: 20211011)**

<https://www.amarujala.com/photo-gallery/lifestyle/fitness/how-to-overcome-anxiety-and-depression-these-tips-are-helpful>

हमारे जीवन में कई कारणों से तनाव या चिंता की समस्या हो सकती है। वैसे तो इन भावनाओं को काफी सामान्य माना जाता है, हालांकि अगर तनाव या चिंता डिप्रेशन का रूप लेने लगे, या फिर इन स्थितियों के कारण आपका सामान्य जीवन और कार्य प्रभावित होने लगे तो ऐसे में सावधान हो जाने की जरूरत है। स्वास्थ्य विशेषज्ञों के मुताबिक लगातार बनी रहने वाली चिंता या तनाव की स्थिति धीरे-धीरे रिश्तों में उलझन का कारण बनने लगती है। मानसिक स्वास्थ्य संबंधी इन्हीं समस्याओं के बारे में लोगों को जागरूक करने के लिए हर साल 10 अक्टूबर को 'विश्व मानसिक स्वास्थ्य दिवस' मनाया जाता है।

स्वास्थ्य विशेषज्ञ कहते हैं, अक्सर हम तनाव के कारण को भी सही से समझ नहीं पाते हैं, ऐसी स्थिति और भी समस्यापूर्ण हो जाती है। आइए आगे की स्लाइडों में मानसिक स्वास्थ्य विशेषज्ञ से जानते हैं कि तनाव या चिंता के साथ तमाम अन्य मानसिक समस्याओं से कैसे बचा जा सकता है?

क्यों होती है तनाव-चिंता की समस्या?

मनोरोग विशेषज्ञ डॉ सत्यकांत त्रिवेदी बताते हैं, तनाव-चिंता की समस्या कई कारणों से हो सकती है। काम के दबाव, सामाजिक-पारिवारिक कारणों के चलते तनाव या चिंतित महसूस करना सामान्य है, हालांकि यह समस्या अगर आपको लगातर बनी रहती है और इसके चलते आपके दैनिक कार्यों पर प्रभाव पड़ता है, तो इस बारे में समय रहते मनोचिकित्सक से सलाह लेना आवश्यक हो जाता है। हमारे जीवनशैली की कुछ खराब आदतों को भी इन समस्याओं को ट्रिगर करने वाला माना जाता है।

यह आदतें बन सकती हैं मानसिक स्वास्थ्य समस्याओं का कारण?

डॉ सत्यकांत बताते हैं कोरोना के इस दौर में मानसिक स्वास्थ्य समस्याओं के मामले पहले से अधिक बढ़ गए हैं। इसके अलावा नींद पूरी न होना या खराब नींद का पैटर्न, कैफीन या निकोटीन का बहुत ज्यादा सेवन, जंक फूड, व्यायाम और आहार में पौष्टिकता की कमी के कारण लोगों में इस तरह की स्वास्थ्य समस्याएं हो सकती हैं। इसके अलावा कोरोना के इस अनिश्चितता भरे समय ने लोगों में तनाव-चिंता और अवसाद के खतरे के पहले की अपेक्षा कहीं अधिक बढ़ा दिया है।

मानसिक समस्याओं से निजात पाने का पहला उपाय

#### 1. पर्याप्त नींद और व्यायाम आवश्यक

मनोरोग विशेषज्ञ डॉ सत्यकांत बताते हैं मानसिक स्वास्थ्य की तमाम समस्याओं से बचे रहने के लिए सभी लोगों को रात में 6-8 घंटे की नींद जरूर लेनी चाहिए। इसके अलावा व्यायाम करना भी मानसिक स्वास्थ्य के लिए फायदेमंद माना जाता है। व्यायाम करने में मस्तिष्क में सेरोटोनिन हार्मोन का स्तर बढ़ता है, जिससे आपको खुशी महसूस होता है। नींद हमारे शारीरिक और मानसिक स्वास्थ्य, दोनों के लिए महत्वपूर्ण है। नींद हमारे मस्तिष्क में सूचना प्रसारित करने वाले रसायनों को नियंत्रित करने में मदद करती है। ये रसायन हमारे मूड और भावनाओं को प्रबंधित करने में महत्वपूर्ण हैं।

मानसिक समस्याओं से निजात पाने का दूसरा उपाय

शराब पीना और धूम्रपान से रहें दूर

डॉ सत्याकांत बताते हैं, शराब पीना और धूम्रपान न सिर्फ मानसिक बल्कि हमारे शारीरिक स्वास्थ्य के लिए भी बेहद खतरनाक माने जाते हैं। लंबे समय तक अत्यधिक मात्रा में शराब पीने से आपमें थायमिन की कमी हो सकती है। थायमिन हमारे मस्तिष्क के कार्य के लिए महत्वपूर्ण है और इसकी कमी से गंभीर स्मृति समस्याएं, मोटर (समन्वय) समस्याएं, भ्रम और आंखों की समस्याएं हो सकती हैं। वहीं धूम्रपान के कारण चिड़चिड़ेपन और चिंता की भावना बढ़ जाती है।

**World Mental Health Day: What are the possible stress triggers for a child? (The Indian Express: 20211011)**

<https://indianexpress.com/article/parenting/health-fitness/world-mental-health-day-what-are-the-possible-stress-triggers-for-a-child-7564146/>

Children and teens easily fall into the trap of negative thinking. Parents must not only disagree with them, but must also ask them to really think about whether what they say is true.

Any change that causes physical, emotional, and psychological strain is called stress. Adults often experience stress and can express it in words. Similarly, a child may also experience stress but may not be able to express it in words. They may show sudden change in behaviour, emotional withdrawal, crying for no reason, extreme clinginess to the parent, some common behavioral problems like thumb sucking, fingernail biting, inability to sleep, teeth grinding, nervousness, stomach aches, cold and sweaty hands, bed wetting and temper tantrums.

Stress in children can get triggered due to various reasons like arrival of a new sibling, moving house or city, starting school or childcare, family illness or death, divorce, new stage of development (adolescence), over involvement of parents, learning difficulties, language delays, academic pressures, illness or hospitalisation, unfamiliar situations, change in routines, etc. Children have their own methods to cope, and not all kids get affected. They handle their reactions differently. Some children may have a natural ability to cope with stress, while others may need guidance and support.

Parents can play a key role in preventing stressful situations and in managing stress in their children. The following are some important tips:

\* Tell your child if, as a parent, you notice something is bothering them. That may help them open up about problems.

\* Talking to your child and giving a compassionate ear to their problems can help them to vent out what they feel. Avoid judging, blaming and lecturing. Be sympathetic and show you want to help. Feeling understood helps your child feel supported.

\* Help your child label their feelings. Many kids are unable to use words for their feelings. Teach your child emotional vocabulary. It improves their communication skills and helps them develop emotional awareness.

\* Help your child think of things to do, give ideas and suggestions, but letting them be an active participant will build their confidence to solve the problems.

\* Stressful situations like incomplete homework, last-minute preparation can be stressful. Teach them to be more organised to prevent stress.

\* Patience is the key; role-model the right behaviours and practices to help children learn by observing adults.

\* A good sleep is essential for physical and emotional well-being. So, 9 to 12 hours of sleep for 6 to 12-year olds and 8 to 10 hours of sleep for a teenager is essential.

\* Physical activity is the best method to relieve stress.

\* Research has found that expressing by writing can reduce mental distress and improve general well-being.

\* Promoting healthy screen usage and media practices and preventing exposure to cyberbullying, peer pressures, can prevent them from running into questionable content.

Children and teens easily fall into the trap of negative thinking. Parents must not only disagree with them, but must also ask them to really think about whether what they say is true. Teaching and helping your child to frame things positively will help them develop resilience to stress.

## **World Mental Health Day: How to protect your mental health during fertility treatment (The Indian Express: 20211011)**

<https://indianexpress.com/article/lifestyle/health/world-mental-health-day-protect-mental-health-fertility-treatment-infertility-7563346/>

Try to continue living your life around the treatment so that regardless of the outcome, you still have things you're involved in and hobbies you enjoy

Around the world, many people go through the fertility treatment process, when they are not able to conceive naturally. But for some people, it can take a toll on their mental health, causing anxiety, depression, etc., to both the partners.

Dr Aindri Sanyal, fertility consultant at Nova IVF Fertility, Kolkata explains that there are two types of infertility:

1. Primary infertility: The inability to have any children at all.
2. Secondary infertility: When a woman is unable to conceive or carry a baby to term after having one or more children. It can be caused by a variety of factors, including cancer, complications from previous pregnancies, decreased sperm production, damage to the fallopian tubes, and so on.

“There is a lot of waiting when you are undergoing fertility treatments. Waiting for tests, results, and treatments, to name a few. As a result, it may appear that your life has come to a halt. You are likely to have different coping mechanisms for the grief of discovering infertility and the stress of undergoing fertility treatments,” says Dr Sanyal.

### How to protect your mental health

According to the doctor, it is natural to feel a range of emotions while undergoing fertility treatment, especially if you're taking medication that can affect your hormones. “But, failure to prioritise mental health can have ramifications in all aspects of life, including work, relationships, and physical health,” she says.

\* Accept stress as normal

Accept that stress is an unavoidable part of the IVF process. If you're experiencing infertility and trying to conceive with help, you have no control or ability to influence the outcome.

\* Practise self-care

Managing your mental health requires more than just medication and therapy. You must also do all the things that keep you healthy, while undergoing fertility treatment, like prioritising the things you enjoy doing.

\* Don't put your life on hold

It is critical to plan ahead of time. Try to continue living your life around the treatment so that regardless of the outcome, you still have things you're involved in and hobbies you enjoy. You should not put your life on hold.

“It is critical to communicate your feelings to your partner and to learn about theirs. This is especially important when dealing with the ups and downs of fertility treatment. It's also important to celebrate small victories together, such as being accepted for treatment, getting a treatment date, and so on.

“Gather as much information and talk to doctors and specialists. Also, talk to others who have been through similar experiences. It is important to remind yourself that there are numerous ways to start a family, including naturally conceiving, fertility treatments, and many others,” the doctor concludes.

## **Healthcare**

### **Strengthening nursing and midwifery for enhancing health care services in India (Hindustan Times: 20211011)**

<https://www.hindustantimes.com/ht-insight/public-health/strengthening-nursing-and-midwifery-for-enhancing-health-care-services-in-india-101633417375016.html>

The piece has been authored by Leila Varkey Sc.D, Centre for Catalyzing Change and commissioner associated with The Lancet Commission on Re-imagining India's Health System.

Measures such as the integration of ASHAs into the health workforce, and families providing substitute bedside nursing care in hospitals, hide some of this acute shortage in the public health system.

The density of health workers, in terms of numbers of doctors, nurses and midwives per 10,000 population, have always told us that India has far less nurses and midwives than needed. The absolute numbers have increased over the years, however, the ratio has remained low as population growth continues to outpace this growth. Measures such as the integration of ASHAs into the health workforce, and families providing substitute bedside nursing care in hospitals, hide some of this acute shortage in the public health system.

The Covid pandemic has shown us that more in-patient services are needed at the primary and secondary care level and ad-hoc arrangements made through contractual hiring for nurses and ANMs to fill this gap leads to labour laws violations and exploitation. Some states have witnessed strikes and walkout as harried nurses refuse to work at low wages or long hours. At the other end of the career pathway, creating senior nursing positions (there are no posts specifically for midwives) and filling them has been a futile process, fraught with procedural tangles because so few senior nurses are in the salary bracket to qualify and those that do have academic backgrounds and are not willing to move. The absence of nurses from health systems decision-making bodies and lack of long term planning for nursing and midwifery has led to this capacity gap. For example, although midwifery is included in nursing training, staff nurses can be placed in any department of the hospital. This provides flexibility to the hospital administrators for placement of nurses in various departments, but leads to lower skills in midwifery so much so that now it is difficult to find nurses who want to specialise in a practice area, since promotions and salaries do not take such specialised practice into account. For hospitals the government still uses the Staff Inspection Unit (SI Unit) figures for nursing staffing despite the High Powerd Committee on Nursing having suggested changes. Most hospitals' nursing superintendents will admit they are chronically short staffed. In 2021, there is no comprehensive State-wise hospital nursing or midwifery staffing data available, and public and private hospitals are not required to provide their nurse:patient ratio data on an annual basis.

Comprehensive nursing workforce analysis is needed to recommend improvement and prevents the brain drain from this profession to foreign lands where nursing and midwifery are attractive professions within their health system. The recommendations should start at the highest level within the ministry of health and family welfare, the DGHS, and in most state health & family welfare and medical directorates, starting with the inclusion of more nurses or midwives in decision making and filling of all required high-level nursing and midwifery positions by nurses and not held ad hoc or officiating by doctors.

This paper briefly dwells on the global workforce plans developed by the WHO and the barriers in achieving the goals of the Vision2030 HRH numbers in our mixed healthcare system.

The preparations for enhancing nursing and midwifery services to meet national commitments set for the achievement of universal health coverage (UHC), working towards health and wellbeing goals and development towards the Global Strategy for Health Workforce 2030 began early in India. Members of the High level Expert Group on Universal Health Coverage (HLEG 2010) which reported to the Chair of the Planning Commission, reviewed the numbers and submitted a 15-year timeframe. Nearly 10 years on, now I take this opportunity to reassess progress on HRH in nursing and midwifery and to see what processes are in place and explain why progress has been held back despite recommendations made for better career advancement, monetary rewards and additional training and responsibility suggested for these vital professionals within our mixed (public and private) health system.

An assessment of gender and its implications for UHC is essential. One of the simplest actions would be to increase the numbers of nurses and midwives and achieve gender equality in our formal workforce to meet India's SDG-5 goals. Nursing and midwifery can be attractive careers for young women if gender barriers are addressed. At present female nurses and midwives struggle to balance a full-time career while maintaining socially acceptable, cultural prescribed gender roles. An adequate nursing workforce means that each nurse covers more patient care than is expected, and shift times are less flexible. For example, when there is a shortage of nurses, shift duties become more inflexible and lack of predictability and long work hours lead to burnout. Over time, although working conditions have improved, the overall female workforce participation declines and evidence that higher management positions, heads of unions and greater agency of male nurses to demand their rights suggest that much needs to be done.

Gender concerns must be addressed if we are to strengthen nursing and midwifery and increase their numbers and quality of work, given that over 85 % of nurses and 100% of auxiliary nurse midwives are women. Among the HLEG's three key gender recommendations for UHC the second recommendation relates to recognition of the role gender plays in the life of a health care provider.

“Recommendation 2: Recognise and strengthen women's central role in health care provision in both the formal health system and in the home. Address women worker's concerns about safety, transportation, housing, hygiene and sanitation; as well as maternity benefits, their need for within-district appointments, and stop sexual harassment; Increase the numbers of women professionals in higher management positions through better career trajectories. Ensure representation of women in all health management structures including nurses; Provide more community-based care programmes. Day care centres, palliative care, domiciliary care, and ambulatory care services that can support home based health care provision”.

To understand progress in popularising entry into nursing and midwifery, in the area of incentives for entering the labour market, a framework is provided in WHO's “Global strategy on human resources for health: Workforce 2030” . The challenge India faces in meeting the nursing workforce goals can be interpreted using this diagram to address the demand and supply side policy levers for increased HRH production and utilisation.

This framework helps us to understand policy levers that shape labour markets in HRH. I would like to use this to expand on what I consider are the issues for expanding nursing and midwifery. Starting with the value placed on education leads us to questioning the viability of educational loans as a means of ensuring HRH especially for nursing. It is noticed that the cost of graduate nursing education in the private sector does not allow payback of the student loan even in 15 years, if employed as a nurse in a small private hospital given the current cost of living. Taking the case of female employees especially nurses and midwives I would like to explore further some of the incentives and disincentives to jobs in the public and private sector and suggest why emigration becomes such an attractive option.

A review of the last 10 years of the Annual Rural Health Statistics which provide HRH employment numbers in the primary health care. It is observed that the posts of obstetricians, and other specialist doctors at the CHC level and rural hospitals have remained unfilled, whereas positions of nurses and ANMs are usually filled, some states have a shortage even on medical officers. The reasons for these two different trajectories for employment between allopathic doctors compared to nurses and midwives are due to differentials in the remuneration structure between the public and private sectors. When looking at incomes, the incentives are such that doctors can earn more in the private sector while nurses earn more in the public sector health institutions. Although public sector doctors in many states doctors can practice or are provided an additional non-practicing allowance (meaning the additional income from practice outside their public health system role is taken into consideration) many still chose to work in the private sector where they have more control over their incomes through complex incentive system in the health care industry which highlight the doctor as the leader of the health team and creator of revenue. Nurses on the other hand are likely to be paid more in the public sector than in the private sector. These are also the same reasons why the private sector in India experiences a high turnover of nurses and the cycle continues with low investment in nursing within the private sector since the industry model does not see a high return on investment. The shocking report that most private sector hospital chains objected to paying nursing a minimum of ₹20,000 per month is telling proof of regard for quality of nursing as a value proposition. We need to do better as we plan for the future.

### **Parkinson's disease**

#### **Research shows promising results for Parkinson's treatment (Medical News Today: 20211011)**

<https://www.medicalnewstoday.com/articles/research-shows-promising-results-for-parkinsons-treatment>

A new study may help improve deep brain stimulation therapy for people with Parkinson's disease.

Parkinson's disease is a degenerative neurological condition.

Healthcare professionals have long used electrical stimulation to treat the symptoms of Parkinson's disease, but there can be serious side effects with prolonged use.

A recent study suggests that electrical stimulation delivered in short bursts to targeted locations may improve the longevity and effectiveness of the treatment.

The Parkinson's Foundation estimates that more than 10 million people worldwide are currently living with Parkinson's disease.

Parkinson's disease is a neurological condition that worsens progressively. It is characterized by tremor, slowness of movement, and muscle stiffness.

The new study, which appears in the journal *Science*, investigates a way to improve deep brain stimulation in the treatment of Parkinson's disease.

### Treating Parkinson's disease

Parkinson's disease develops due to the progressive degeneration of neurons in a part of the brain called the substantia nigra<sup>Trusted Source</sup>. The death of these neurons results in a deficiency of the neurotransmitter dopamine.

The main treatment option for Parkinson's disease is the drug levodopa. This medication is a dopamine replacement. However, it loses its effectiveness over time, and some people can develop motor complications as a result of using it.

Once drugs for Parkinson's disease stop being effective, doctors may use high frequency deep brain stimulation to help reduce the symptoms.

Doctors now use electrical deep brain stimulation to treat a growing list of conditions, including dystonia, tremors and epilepsy, and obsessive-compulsive disorder.

In 1989, scientists successfully applied this technology for the first time to reduce the tremors associated with Parkinson's disease. Since its initial clinical use, experts have further developed and refined the stimulation technique.

Some Parkinson's disease symptoms respond well to this type of treatment. However, there are several downsides to electrical stimulation, including worsened depression, psychosis, and impulse-control disorders.

Additionally, symptoms that the treatment initially improves will return relatively quickly when the stimulation stops.

### A new approach

Researchers at the Carnegie Mellon University in Pittsburgh based their recent study on previous work. The results of earlier studies indicate that optogenetic manipulation<sup>Trusted Source</sup> of certain targeted neurons can provide long lasting therapeutic effects in dopamine-depleted mice.

Optogenetics is a technique that enables scientists to activate or inhibit specific neuron activity through the use of light. Because optogenetics is still in its early stages in human disease models, the authors of this study chose to use a mouse model.

The researchers found that they could target specific neurons through brief bursts of electrical stimulation. By delivering stimulation in short bursts as opposed to continually applying it, they could target specific neurons.

These targeted treatments restored and maintained movement several hours after stimulation and provided long lasting therapeutic benefits in the laboratory mice.

Hope for the future

Dr. Brian Kopell, director of the Center for Neuromodulation at the Mount Sinai Health System in New York City, told Medical News Today that this study provides innovative options for possible future therapies for Parkinson's disease.

“[The authors] noted that there is opportunity to modulate these circuits based on a dimension that is often overlooked,” said Dr. Kopell. “We tend to think mostly in terms of where to put the stimulation and not when to put the stimulation.”

In a companion editorial, the authors state, “The study by Spix et al. is an excellent example of ‘optogenetics-inspired’ [deep brain stimulation] and may pave the way to more robust [deep brain stimulation] approaches that ultimately can be translated to humans.”

However, it is important to note, as Dr. Kopell told MNT, that this study used a rodent model. So, until we see similar results in humans or nonhuman primates, we should try to curtail our excitement.

That said, the study authors hope that this treatment approach may be translatable to humans. If it is translatable to humans, it could represent a major therapeutic advance for the treatment of Parkinson's disease.

They are confident that scientists will soon be able to test their burst stimulation protocol in people with Parkinson's disease because the frequencies are within a range already approved for clinical use.

As they explain in their paper:

“Our burst [deep brain stimulation] protocol can be delivered through commonly used [deep brain stimulation] implants and falls within United States Food and Drug Administration [FDA]-approved stimulus frequencies, enabling immediate testing in [Parkinson's disease] models across species, including [humans].”

The researchers conclude that the study demonstrates how fundamental knowledge about the organization and function of neurons within the brain can help healthcare professionals tune the specificity of electrical stimulation, “ultimately prolonging the therapeutic benefits of [deep brain stimulation] beyond those achieved with conventional methods.”

## **Nutrition/ Diet**

### **Diet may help alleviate some symptoms of bipolar disorder (Medical News Today: 20211011)**

<https://www.medicalnewstoday.com/articles/diet-may-help-alleviate-some-symptoms-of-bipolar-disorder#Reflecting-bipolar-disorder-demographics->

New research indicates that adjusting the levels of fatty acids in the diet improves mood variability in people with bipolar disorder.

More than 80 people with bipolar disorder participated in a study in which half of them received diet counseling and ate specific foods for 12 weeks.

The researchers decreased the experimental group's consumption of omega-6 fatty acids by limiting red meat, eggs, and certain oils and increased their consumption of omega-3 fatty acids by adding flaxseed and fatty fish.

The participants completed twice daily surveys about their mood, pain, and other symptoms on smartphones.

Those who followed the experimental diet showed improved mood variability.

A study in the journal *Bipolar Disorders* Trusted Source suggests that individuals with bipolar disorder who adjust their intake of specific fatty acids may experience less variability in their moods.

Nearly 3% of people in the United States have a diagnosis of bipolar disorder, according to the National Alliance on Mental Illness. People with this condition may experience dramatic shifts in their moods, energy levels, and sleep patterns. These shifts in mood may include manic or hypomanic episodes, during which the person feels extreme elation or irritability. During episodes of bipolar depression, they may experience feelings of sadness and hopelessness.

Several studies Trusted Source have suggested that there may be a relationship between the consumption of seafood rich in omega-3 fatty acids and a lower prevalence of bipolar disorders. However, studies Trusted Source looking at the effects of fish oil supplements on the condition have found no such link.

Dr. Erika Saunders, an author of the study and professor and chair of the Department of Psychiatry and Behavioral Health at Penn State Health Milton S. Hershey Medical Center, explained the design of the study to Medical News Today. She said that the researchers wanted to see whether making a dietary change “for a very specific biological reason could alter mood stability or improve mood variability” in people with bipolar disorder.

## Using diet to improve mood

ResearchTrusted Source has shown that medications that doctors commonly use for treating bipolar disorder can change how the body breaks down fatty acids.

The Penn State College of Medicine researchers hypothesized that by changing the type and number of fatty acids in the diet, the body would generate metabolites with specific purposes, such as reducing inflammation or pain.

Specifically, they wanted to look at whether lowering an individual's intake of linoleic acid — an omega-6 fatty acid — while increasing their intake of the dietary omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) might be an effective treatment approach for bipolar disorder.

“So, medications change fatty acids in a particular way,” Dr. Saunders told MNT. “We said, ‘Great, we can add to that by changing the diet in the same way, biochemically speaking, and let’s see if that helps.’”

The researchers assigned 82 participants with bipolar disorder to one of two groups: control or experimental.

Those in the experimental group decreased their linoleic acid consumption by limiting red meat, eggs, and certain oils. They also increased their omega-3 fatty acid consumption by adding flaxseed and fatty fish, such as tuna and salmon, to their diet. The researchers also specified the diet for the control group so that the participants did not know to which group they belonged.

All participants received foods, specific meal plans, and instructions on preparation for 12 weeks. The team instructed them to follow the diet while continuing with their normal care, including taking any prescribed mood-stabilizing medications.

The researchers gave the participants smartphones and asked them to use the devices to complete twice daily surveys about their mood, pain, and other symptoms. Additionally, technicians regularly took blood samples to measure the participants' fatty acid levels and ensure that they had stuck with the diet enough to alter their biochemical levels.

Ultimately, the researchers found that the experimental diet improved mood variability in people with bipolar disorders.

## Traditional therapy – done online

Choose from BetterHelp's network of therapists for your disorder symptoms and stay supported by phone, video, or live chat sessions. Plans start at \$60 per week + an additional 10% off your first month.

## Reflecting bipolar disorder demographics

The study authors note that the majority of the participants were female. “We know that women are more inclined to participate in research than men,” Dr. Saunders told MNT.

Dr. Gabrielle Marzani, a psychiatrist and associate professor in the Department of Psychiatry and Neurobehavioral Sciences at the University of Virginia in Charlottesville, also noted that the majority of the participants in the study were white. “This group tended to be a pretty homogeneous group of women that doesn’t necessarily reflect the demographics of all individuals with bipolar disorder,” she told MNT.

Dr. Marzani was not involved in the study, but she deemed the research “intriguing.”

Additionally, Dr. Marzani pointed out that the participants in the study may not all have experienced the same severity of symptoms of bipolar disorder. For instance, among the participants in the study’s intervention group, the median number of lifetime depressive episodes was 30. In the control group, the median number was 11.

Similarly, while the median number of manic episodes was five among the participants in the study’s intervention group, in the control group, it was double that. “It wasn’t apples and apples,” Marzani told MNT.

More work necessary

In the paper, the researchers note that they want to see the trial replicated on a larger scale. Dr. Saunders also told MNT that an avenue for future research might involve looking at ways to make following this diet easier.

“While not everyone with bipolar disorder will want to change their diet or be able to change their diet,” Dr. Saunders said, “I think that it’s really important to have the scientific knowledge about what would be beneficial for those who do want to change their diet and who can.”

## **Rheumatoid arthritis**

### **Is a vaccine for rheumatoid arthritis possible? (Medical News Today: 20211011)**

<https://www.medicalnewstoday.com/articles/is-a-vaccine-for-rheumatoid-arthritis-possible#Research-moving-forward>

The authors of a new study hope that their work paves the way for a rheumatoid arthritis vaccine.

Rheumatoid arthritis (RA) is an autoimmune condition that causes inflammation, often in the joints. It is chronic and can be debilitating.

Currently, there is no cure for RA.

A new study using an animal model suggests that a vaccine to prevent RA may be possible.

RA is a debilitating chronic condition that impacts the joints in the body. It can cause pain and decrease people's ability to function. While individuals can manage the condition, there is no cure.

A new study that appears in the Proceedings of the National Academy of Sciences reports that there may be hope for a vaccine to help prevent RA.

The study examined a specific protein and its influence on the development of arthritis in rats.

What is RA?

ArthritisTrusted Source refers to joint inflammation. The term encompasses a broad class of conditions that impact the joints.

RA is an autoimmune disease, which means that the body mistakenly attacks its own tissues. This causes inflammation in the joints and joint damage and can lead to chronic pain.

According to the Arthritis Foundation (AF), joint pain, swelling, or stiffness typically lasts for 6 weeks or longer. RA usually affects smaller joints in the body first, such as the bones of wrists and hands, and the symptoms occur in the same joints on both sides of the body.

Because there is no cure, pain management for people with arthritis is critical.

In a recent episode of the AF podcast "Live Yes with Arthritis," occupational therapist Rebecca Gillett explained that "pain is a personal experience that is influenced by many factors [...] There is no one-size-fits-all approach when it comes to pain, but one of the first steps is identifying unique challenges and triggers."

Currently, people with RA manage the condition through medications and other strategies <sup>Trusted Source</sup>. For example, individuals with arthritis are encouraged to remain active, reach or maintain a moderate body weight, and take steps to protect their joints from injury.

## Vaccine for RA

The authors of the recent study focused on a specific protein — 14-3-3 zeta — and its role in arthritis.

They initially theorized that this protein contributes to the development of arthritis. However, they discovered that when they removed the protein in an animal model of RA, arthritis became more severe.

When speaking with Medical News Today, study author Dr. Ritu Chakravarti explained that this protein acts as an antigen, which means that it triggers the immune system.

She said: “[T]he moment we saw it was an antigen, we assumed that is a bad thing. You always have this bias that antigens are bad.”

The scientists investigated the development of arthritis in relation to 14-3-3 zeta in rats. They used genetically engineered rats, which do not produce 14-3-3 zeta, and induced arthritis in them.

Compared with rats that still produced 14-3-3 zeta, those that lacked the protein lost bone and body weight and developed severe joint inflammation.

In the experimental rats, there were three phases to the development of arthritis: a period with no symptoms, a period with severe inflammation of the joints, and a period where the inflammation began to decrease.

The researchers tested whether the infusion of antibodies to 14-3-3 zeta after the onset of arthritis would help with arthritis symptoms. They found that this treatment was ineffective.

Next, they tested to see whether an immunization that contained 14-3-3 zeta would prevent symptoms of arthritis. They immunized the rats 1 day after the arthritis induction, during the period without symptoms. They also gave the rats a booster shot about 1 week after inducing arthritis.

They found that the vaccination with the 14-3-3 zeta protein reduced joint inflammation and the severity of arthritis. It also helped preserve bone quality.

Dr. Chakravarti was excited by the study results, even though it was not what the team had initially expected to find. She told MNT:

“There is no cure for RA. And this is probably one of the first studies that shows that you can prevent RA.”

## Research moving forward

The study was conducted in rats, and therefore scientists will need to carry out much more research. However, the study is a significant step toward better treatment options for those with RA.

Dr. Chakravarti identified two major next steps in this investigation. Firstly, “we need to see how this actually works in impacted individuals. Can this vaccine actually prevent the disease in humans?”

The second significant component will be understanding how this particular protein is influencing the symptoms and development of arthritis.

Dr. Chakravarti told MNT that researchers need to understand “how it is working. [...] We really need to understand it in more detail, because once we know the mechanism of its action, then we will know what other diseases we can use this for. Can we prevent multiple sclerosis, or can we prevent any other musculoskeletal diseases?”

## **Public Health**

### **WHO recommends malaria vaccine for at risk children (Medical News Today: 20211011)**

<https://www.medicalnewstoday.com/articles/who-recommends-malaria-vaccine-for-at-risk-children#Major-achievement>

In a significant breakthrough, researchers have developed a vaccine against malaria.

In 2019, 409,000 people died from malaria.

Cases of malaria have been falling but have recently stalled.

The RTS,S/AS01 vaccine is the first and only vaccine that targets the parasite *P. falciparum*, which is particularly deadly and prevalent.

The vaccine represents decades of work and is a major breakthrough.

In an announcement, the World Health Organization (WHO) Trusted Source has recommended a malaria vaccine for children in areas with moderate-to-high transmission of *P. falciparum* malaria.

The RTS,S/AS01 (RTS,S) vaccine is safe. Since 2019, healthcare professionals have trialed it in 800,000 children in Ghana, Kenya, and Malawi.

## Malaria

According to the WHO Trusted Source, malaria is an infectious disease that occurs due to the transmission of parasites to a person by mosquito bites that carry the infection.

Around 409,000 people died from malaria in 2019, 67% (274,000) of whom were children under 5 years old. In 2019, 94% of deaths and cases of malaria occurred in Africa.

The malaria parasite *P. falciparum* is particularly dangerous — in Africa, it accounts for 99.7% of estimated cases.

A person will typically only experience symptoms 10–15 days after being bitten by an infected mosquito. Initial symptoms may be mild, including headache and fever, and it can be hard to tell whether they indicate malaria. However, these symptoms can quickly become life threatening without treatment in the first 24 hours.

According to Dr. Matthew B. Laurens, of the Center for Vaccine Development and Global Health, University of Maryland School of Medicine, Baltimore, MD, and the author of a study in the journal *Human Vaccines and Immunotherapeutics*, a person with mild malaria has a less than 1% chance of death. However, an individual with severe malaria has a 90% chance of death if they stay at home and a 20% chance if they receive treatment at the hospital.

## Well-timed development

According to Dr. Laurens, the development of the RTS,S vaccine comes at an ideal time.

While malaria mortality has reduced due to the promotion of more effective control measures, this reduction in deaths has stalled in recent years. The RTS,S vaccine offers hope that mortality rates will begin to fall again. By 2030, the WHO aims to reduce mortality by 90% from May 2015 levels.

The WHO Director-General, Dr. Tedros Adhanom Ghebreyesus Trusted Source, says, “[t]his is a historic moment. The long-awaited malaria vaccine for children is a breakthrough for science, child health, and malaria control. Using this vaccine on top of existing tools to prevent malaria could save tens of thousands of young lives each year.”

Dr. Matshidiso Moeti, WHO Regional Director for Africa, adds: “[f]or centuries, malaria has stalked sub-Saharan Africa, causing immense personal suffering.”

“We have long hoped for an effective malaria vaccine, and now for the first time ever, we have such a vaccine recommended for widespread use.”

“Today’s recommendation offers a glimmer of hope for the continent [that] shoulders the heaviest burden of the disease, and we expect many more African children to be protected from malaria and grow into healthy adults,” says Dr. Moeti.

Health experts will administer the RTS,S vaccine in four doses to children in areas at high risk of the *P. falciparum* malaria parasite. It reduces cases of severe malaria by 30%.

“Major achievement”

Speaking to Medical News Today, Prof. Jake Baum, co-director of the Institute of Infection at Imperial College London, United Kingdom, said that the new vaccine was a significant achievement.

“Malaria is unlike COVID-19. As several panel members at the WHO announcement made clear, it’s a complex eukaryotic parasite — more like one of our own cells. It’s not a virus or a bacteria, so making vaccines against it was always going to be much more challenging — [there are] thousands of genes versus [around] a dozen in the SARS-CoV-2 virus.

“It’s also had millennia to co-evolve with our immune system and avoid detection, so it’s a hardened foe to try and attack. As the first licensed vaccine not just for malaria, but the first against any human parasitic disease, it’s a major achievement.”

“Yes, it’s not nearly as efficacious as the COVID-19 vaccines, but it will have [a] significant impact on rates of disease and death. And it sets down a massive benchmark against which we can all work towards beating. So I’d say it was an extremely significant day for vaccinology and for malaria. A public health breakthrough for sure,” said Prof. Baum.

Prof. Baum also noted that while there are no other imminent vaccines or treatments for malaria on the horizon, health experts are beginning to explore many approaches and technologies experts that could be effective.

“There are clinical trials underway for vaccines targeting different lifecycle stages of the parasite, [that is, the] blood stage and transmission — RTS,S targets what’s called the pre-erythrocytic stage, from bite to liver.”

“There are also different vaccine strategies being developed, [f]rom whole sporozoite (parasite) to new innovations that are entirely different. These are at different stages of development — some being trialed extensively in field trials, others still in the lab. RNA vaccines will surely come too.”

“RTS,S gives us a benchmark to measure success in all these vaccines. And I would argue that we will need diversity: diversity in target, diversity in strategy — virus-like particles, messenger RNA, adenovirus, protein, whole parasite — and diversity in manufacturing — [...] not just [in the] rich north but in-country in [lower to middle income countries] so that distribution is fair and unencumbered by shipping.”

“Combinations of vaccines or combinations with other interventions — [such as] drugs — can improve efficacy, and this will be something to watch closely in the future.”

“Bottom line, RTS,S must be the beginning of a renaissance in malaria vaccine research, not the end, and that means funding — so funders must see RTS,S as the starting gun to invest in [the] development of new vaccines,” argued Prof. Baum.

Prof. Baum also highlighted how the experience of developing vaccines for COVID-19 may help in the future development of malaria vaccines. However, some of the problems in the equitable distribution of the COVID-19 vaccines also need solving.

“Technologies that rapidly expanded with COVID-19 will undoubtedly feed into improvements in the manufacture, distribution, and delivery of future vaccines. But there’s also been challenges highlighted, most obviously equitable access — seeing how hard it has been getting COVID-19 vaccines to lower middle income countries. That’s something that has to be overcome for malaria, prompting discussions about local manufacturing and local distribution — though RTS,S has shown how it can be done, which is terrific,” said Prof. Baum.

Prof. Baum stressed that while the vaccine is an exciting and important development, more work is necessary to minimize the effects of malaria.

“In a world of shrinking attention spans, no one should read the news and think that malaria is now solved. It isn’t. The vaccine is a landmark, but it’s not 100% by any measure.”

“Malaria control and eventual eradication [are] going to need a diversity of tools and interventions, new drugs, bed nets, vector control and absolutely new vaccines with improved efficacy, longevity of protection, and requiring simpler vaccination regimens.”

“To say it again — RTS,S must be the beginning and not the end of future vaccine research and investment in malaria research.”

“A journey of a thousand miles begins with a single step — RTS,S is one very big step,” said Prof. Baum.