

News from here and there

India's best 50 medical colleges 2022

On 15 July 2022, the Union Minister of Education, Skill Development and Entrepreneurship, Shri Dharmendra Pradhan released the National Institutional Ranking Framework (NIRF) 2022 (<https://pib.gov.in/PressReleasePage.aspx?PRID=1841810>) for higher educational institutes. The rankings are for different categories such as medical, dental, engineering, management, pharmacy, architecture, law and overall.

Among medical colleges, the All India Institute of Medical Sciences (AIIMS), New Delhi, tops the list with a score of 91.60. It has been holding this position for five consecutive years. Additionally, AIIMS got the ninth rank in the overall category.

The Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh, ranked second with a score of 79.0, while Christian Medical College (CMC), Vellore, ranked third with a score of 72.84. Bengaluru's National Institute of Mental Health and Neurosciences (NIMHANS) is at the fourth position (score 71.56) and Banaras Hindu University rounds the top five at the fifth position (score 68.12).

In the sixth to tenth positions are Jawaharlal Institute of Post Graduate Medical Education and Research (JIPMER), Puducherry; Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS), Lucknow; Amrita Vishwa Vidyapeetham, Coimbatore; Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram; and Kasturba Medical College (KMC), Manipal.

On the occasion the minister stated that India's higher educational institutes were making the overall education ecosystem energetic and the youth of the country ready to face the future. He added that these institutions have a crucial role to make quality education both economical and within reach of the masses.

The Union Ministry of Education launched the NIRF in 2015. The parameters used for the purpose of ranking were teaching, learning and resources, research and professional practice, graduation outcomes, outreach and inclusivity, and perception. Each of these five parameters had between 2 to 5 sub-parameters that were used for ranking in various categories and subject domains.

The data used for ranking were sourced from the institutions as well as external sources. For instance, the information on publications and citations was obtained from Scopus (Elsevier Science) and Web of Science (Clarivate Analytics). Data on patents were obtained from Derwent Innovations. The data retrieved were shared with the respective institutions for their inputs.

It is interesting that two of the oldest and most prestigious medical institutions in the country are in the top 50. The École de Médecine de Pondicherry, instituted in 1823 by the French colonizers, has now become JIPMER (rank 6); Medical College, Kolkata, established by the British in 1835 is ranked 43.

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Number of medical colleges and their intake capacity of MBBS seats in India: An update

Readers of this news page would be aware of the efforts that have been under way for increasing the number of MBBS seats in government and private medical colleges/institutions in India (Mohan A. Large increase in the number of medical colleges being accorded recognition by NMC/MCI during 2019–2021. *Natl Med J India* 2022;**35**:64). An update on this topic is presented here.

On 22 July 2022, The Union Health Minister informed the Lok Sabha that currently, there are 612 medical colleges with an intake capacity of 91 927 MBBS seats in India compared to the previous year when there were 8652 fewer MBBS seats in 558 medical colleges. Of the 612 medical colleges, 322 were government medical colleges (GMCs) and 290 were private medical colleges. Of these 91 927 MBBS seats, 48 012 seats were available in GMCs while private medical institutions had 43 915 seats.

Among the states, Tamil Nadu with 10 725 seats, had the highest number of MBBS seats to offer (in 70 medical colleges); followed by Karnataka (10 145 seats in 63 medical colleges) Maharashtra (9895 seats in 62 institutes) and Uttar Pradesh (9053 seats in 67 medical colleges). Overall, Tamil Nadu (70), Uttar Pradesh (67) and Karnataka (63) had the highest number of medical colleges. The highest number of GMCs were in Tamil Nadu (38), Uttar Pradesh (32) and Maharashtra (29). The states with maximum number of private medical institutes were Karnataka (42), Maharashtra (33) and Tamil Nadu (32).

In 16 states/Union Territories (UTs), under the centrally sponsored scheme (CSS) for upgradation of GMCs for increase of MBBS seats in existing medical colleges, 3495 MBBS seats have been approved. Under the CSS, for establishment of new medical colleges by upgrading district/referral hospital, 157 new medical colleges have been approved and of these, 72 are functional. Undergraduate courses have been started in 19 of the 22 All India Institute of Medical Sciences (AIIMS) that have been approved under the CSS for setting up of new AIIMS.

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Study proposes dual bio-stimulation with sound and electric body impulses as a treatment modality for chronic pain

Pain is a disabling and common medical symptom and researchers are constantly on the lookout for creative solutions to the problem. Cory D. Gloeckner, Jian C. Nocon and Hubert H. Lim from University of Minnesota, Minneapolis, USA have performed multisensory stimulation of the brain via sound and electric impulses, to activate sensory and motor pathways, in an attempt to modulate or disrupt abnormal neural patterns in the somatosensory cortex. The study, published in June 2022 (Gloeckner *et al. JNeural Eng.* 2022;**19**. doi: 10.1088/1741-2552/

ac7665), was carried out on 9 ketamine-anaesthetized female Hartley guinea pigs who were each subjected to a craniotomy and had four electrode shanks placed in their right somatosensory cortex. Electric impulses, in the form of biphasic pulses, were used to provide and measure neural responses to body stimulation. The auditory stimuli were provided as acoustic broadband noise via a speaker to each guinea pig's left ear. A range of stimulatory settings was used for each type of neural activity, and the responses of the cortex in the form of both suppressive and facilitative effects to each stimulus was measured. The tests concluded that different regions of the somatosensory cortex could be targeted with electrical stimulation of individual body regions, and a given location of the somatosensory cortex could be activated by stimulation of multiple body locations as well. The areas of the somatosensory cortex responding to electric impulse body stimuli were substantially increased when paired with concomitant acoustic broadband stimuli. Used in isolation, auditory stimulus elicited excitation primarily in the somatosensory cortex effecting lower body areas, but combined auditory and body impulse stimulation was found to be more facilitative for upper body regions than lower body regions.

The researchers hope to apply the tests via non-invasive techniques to humans so as to treat neuropathic and non-neuropathic pain conditions such as trigeminal neuralgia, temporomandibular joint dysfunction, phantom limb pain, spinal cord injury, carpal tunnel syndrome, and other types of peripheral nerve or tissue injury-induced pain. They also plan to expand the research to include visual and motor stimuli so that optimal

bimodal techniques of stimulation can be discovered; this would, hopefully, induce long-term changes in specific regions of the brain, to disrupt or reverse abnormal activity of somatosensory cortex neurons that express/perceive pain symptoms. Pain pathways converge widely in the brain across the brainstem, midbrain and thalamus, with multiple subtracts in the subcortical and cortical regions, spanning auditory, somatosensory, visual, and motor pathways.

Approximately 20%–40% of the world population is estimated to be suffering from chronic pain; of this, 8%–20% find the pain debilitating. At present, opioids and narcotics form the mainstay of pain alleviation treatments but are associated with severe side-effects and addiction potential. Dr Pushparaja Shetty (Consultant Neurologist, Dubai, United Arab Emirates), in an email to this correspondent, stated 'Pain has multiple origins from peripheral local tissue or organ to central processing and perception. Hence, pain management can begin from local therapy to central pain processing manipulation. As pain is finally felt because of our perception due to central processing, altering this with non-invasive procedures such as sound and non-invasive electrical stimulation is exciting and should work beautifully in many chronic pain syndromes such as fibromyalgia, etc. Traditional pain management techniques such as acupuncture and Hijama work on similar principles and this new technique of sound and electrical stimulation if successful, will do wonders for those with chronic pain.'

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The National Medical Journal of India is looking for correspondents for the 'News from here and there' section. We are particularly interested in getting newswriters from the north and northeast regions of India as well as from other countries. By news, we refer to anything that might have happened in your region which will impact on the practice of medicine or will be of interest to physicians in India. The emphasis of the news items in this column, which are usually from 200 to 450 words, is on factual reporting. Comments and personal opinions should be kept to a minimum if at all. Interested correspondents should contact SANJAY A. PAI at sanjayapai@gmail.com or nmji@nmji.in