

need NBA approval before they can be granted IPR based on biological resources found in India.

Indian nationals and entities, on the other hand, only need to register with the NBA before obtaining IPR. However, they must inform the relevant SBB before commercially using the IPR (sections 23(b) and 24(2)). This streamlined process should expedite patent applications for Indian researchers and institutions.

### Other considerations

The amended act does not provide access to ‘codified traditional knowledge’, which refers to the knowledge documented in authoritative books listed under the Drugs and Cosmetics Act of 1940 related to Indian traditional medicine systems like ayurveda, siddha, unani, etc.

Further, the amended act exempts registered AYUSH practitioners (practitioners of Indian traditional medicine systems), local communities, and cultivators of medicinal plants and their derivatives from giving prior SBB intimation for commercially utilizing such knowledge (sections 7 and 40). These exemptions aim to support the livelihood of these communities and practitioners.

### Procedure simplification

The amended act simplifies the procedure for obtaining approval for ABS by using

Forms I through IV. These forms are submitted to the NBA by different entities seeking permission for various activities.

- Form I: Used by the foreign ‘controlled’ entities/individuals to request authorization for accessing biological resources and associated traditional knowledge.
- Form II: Used by research institutions to seek prior authorization to disclose research findings to foreign individuals or entities, companies operating abroad and NRIs for commercial purposes.
- Form III: Used by researchers to request pre-authorization to pursue patent applications.
- Form IV: Used to appeal against the endorsement granted by the NBA for the transfer of accessed biological resources and associated traditional knowledge to a third party.

### Implications and conclusion

The implications of these amendments are significant for individuals or entities seeking to engage in activities related to biological resources and traditional knowledge. By requiring pre-authorization and endorsement from the NBA in specific contexts, the amendments ensure that proper regulations and guidelines are

followed, promoting responsible and sustainable utilization of bio-resources. For Indian entities, the amendments streamline the process of obtaining IPR and patents. Additionally, the act clarifies the roles and functions of the NBA and SBB. Overall, the amendments aim to simplify technology transfer between research institutions and Indian companies, while still protecting the rights of local communities and indigenous knowledge holders.

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3. The Companies Act, 2013; <https://www.mca.gov.in/Ministry/pdf/CompaniesAct2013.pdf> (accessed on 12 September 2023).
4. The Drugs and Cosmetics Act, 1940; [https://www.indiacode.nic.in/bitstream/123456789/15278/1/drug\\_cosmetics1940-23.pdf](https://www.indiacode.nic.in/bitstream/123456789/15278/1/drug_cosmetics1940-23.pdf) (accessed on 12 September 2023).

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## Mental health of India’s ageing population: what do we know?

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United Nations General Assembly in 2020 declared the period from 2021 to 2030 as the Decade of Healthy Ageing. The announcement came in the wake of changing population demography globally. Population ageing, the increase in the proportion of population in the older age group is the most significant global trend. It presents key challenges and concerns not only to the people of older age group but to the whole society. Increased longevity, along with decreasing fertility rates are the main reasons for the changes in population growth and age distribution<sup>1</sup>.

Globally, there were 771 million people aged 65 years and above in 2022 (ref. 2).

As per the latest projections, the number of persons aged 65 years and above will rise to 994 million by 2030. According to the WHO estimates, by the year 2030, 1 in 6 individuals on the globe will be 60 years or older. India is also experiencing rapid population ageing. With 103 million people aged 60 and above, the elderly population of India represented 8.6% of the country’s overall population in 2011 (ref. 3). By 2030, there will be 192 million elderly persons in the country<sup>4</sup>.

Ageing presents some health, social and financial challenges. Hearing loss, cataract, osteoarthritis, pulmonary diseases, diabetes, depression and dementia are some common

ailments prevalent in older people across the globe<sup>5</sup>. Cardiovascular disorders, diabetes mellitus, respiratory disorders, neurological/psychiatric problems, bone or joint diseases, and cancer are the prevalent chronic health conditions affecting the geriatric population in India<sup>6</sup>.

Mental health in older age groups is strongly influenced by neurological and psychiatric conditions. More than 20% of people 60 and older worldwide have a mental or neurological disorder. This condition is responsible for 6.6% of all disabilities (measured as disability-adjusted life years, or DALYs) among those older than 60 years of age<sup>5</sup>. In the Global Burden

of Diseases, Injuries, and Risk Factors Study (GBD) 2019, it was highlighted that in India, the contribution of non-communicable neurological conditions to total disability-adjusted life-years (DALYs) doubled to 8.2% (6.6–10%) in 2019 from 4% (95% UI 3.2–5.0) in 1990 (ref. 7). Non-communicable neurological diseases included in the mentioned study were stroke, headache disorders, cerebral palsy, Alzheimer's disease and other dementias, brain and CNS cancer, epilepsy, Parkinson's disease, multiple sclerosis, motor neuron diseases and various other neurological disorders. Furthermore, the study also reported that with age, the DALY to population ratio increased. A ratio of 6.9 was seen in individuals aged 80 years and above<sup>7</sup>. Another important finding from the study was that the contribution of non-communicable neurological diseases to total neurological disorder DALYs increased with age, reaching more than 90% in individuals aged 80 years and above. In the latest Longitudinal Ageing Study in India-Diagnostic Assessment of Dementia (LASI-DAD), the prevalence of dementia at the national level in India was estimated to be 7.4% (ref. 8). In addition to neurological diseases, psychiatric diseases present a key mental health challenge in the geriatric population. Globally, 5.7% and 3.8% of individuals aged 60 years and above experience depression and anxiety respectively<sup>9</sup>. In the LASI study, the self-reported prevalence of depression in India's geriatric population was estimated to be 0.8%. Another meta-analysis study reported the pooled prevalence of depression in the elderly population of India to be 34.4% (ref. 10).

The findings point out the significant burden posed by neurological and psychiatric diseases on the quality of life in ageing population of India. Socioeconomic factors play a decisive role in mental health problems in the elderly. In India, factors like changes in the social fabric of society from joint families to nuclear families and migration of youth towards urban areas for

employment have resulted in increased loneliness and isolation among the elderly. Additionally, debilitating physical health, frailty and comorbidities also make geriatric age group vulnerable to mental disorders, as physical and mental health are closely linked. As per the LASI Wave 1 study, the elderly in India have the lowest treatment rates (41%) for neurological and psychiatric disorders<sup>6</sup>. Multiple factors contribute to the low treatment rates. Some of the reasons include low level of education and financial dependency, lack of access to appropriate services, limited knowledge and awareness, and stigma attached to mental health disorders<sup>11</sup>.

With fast-paced demographical changes and population ageing, the mental health of the geriatric population in India requires immediate attention. To ensure better well-being of the ageing population of India, good health coupled with an appropriate level of functioning should be the foundation of health interventions and policies for the elderly. Merely adding years to life may not improve the quality of life; rather, encouraging adoption of a healthy lifestyle for physical as well as mental well-being can help mitigate the key health challenges faced by the elderly. Increased awareness about leading mental health issues in older people can give better results in terms of early diagnosis and treatment. There is an apparent need for specialists in the field of geriatric medicine, psychiatry, and care to provide accessible and affordable care to the vulnerable elderly age group. This can be achieved by launching targeted courses and programmes in addition to creating specialized geriatric health centres, especially in rural areas. Moreover, educating caregivers, family members, by providing training, support and advice is key to providing holistic care to the aged. Lastly, more research encompassing the critical trends, determinants and variables for developing better health information systems is fundamental to delivering real solutions.

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