

# A need for a holistic approach to mental healthcare



Mental disorders often co-occur with physical illnesses such as coronary heart disease, stroke and diabetes. However, chronic physical conditions might be overlooked and inadequately treated owing to diagnostic and treatment overshadowing and lack of access to adequate primary care. So far, most research on the physical health of people with mental disorders has focused on cardiovascular, metabolic and immune system comorbidities, while other body systems have been left unexplored.

A new cross-sectional study published in *JAMA Psychiatry* presents a systems approach, by exploring body health across seven systems (pulmonary, musculoskeletal, kidney, metabolic, hepatic, cardiovascular and immune) in people with common neuropsychiatric disorders. “The importance of biophysiological axes linking brain–heart, brain–lung, brain–liver, brain–gut microbiome and brain–endocrine systems is increasingly recognized,” explains Ye Ella Tian, the first author of the paper. “We decided to evaluate the health and function of brain and body systems using a variety of organ-specific markers in common mental disorders and to find biological evidence for a link between mental and physical illness”. The study included people with depression, generalized anxiety disorder, schizophrenia, bipolar disorder and dementia ( $n = 85,748$ ) and healthy controls ( $n = 87,420$ ). The researchers used structural and diffusion-weighted brain imaging data from the US, UK and Australia

population-based biobanks. The physical assessments along with blood and urine assays were available from the UK Biobank. The authors computed age- and sex-specific normative reference ranges for each system health score based on healthy controls and quantified the extent to which individuals with mental disorders deviated from these normative ranges. They discovered that poor body health, particularly of the metabolic, hepatic and immune systems, is a more pronounced manifestation of mental illness than brain changes, for all examined disorders except dementia. “We find this particularly remarkable because mental health conditions are typically linked to a neural origin, yet we see that people with mental illness present considerably poorer physical health across multiple non-neural systems,” explains Tian. “Because of the cross-sectional study design, we cannot conclude that physical illness causes deteriorating mental health or vice versa. Instead, we hypothesize that causal relationships between body and mental health are bidirectional and complex”.

This work underscores the importance of implementing a holistic approach that integrates brain–body connections into mental health care together with a routine assessment of physical health in people with mental disorders. “Further work will determine whether organ health scores we developed here can accurately predict physical comorbidity in advance of illness onset and identify individuals at risk of developing physical illness. This will lead to more informed choices about effective physical health interventions at early stages of psychiatric care”, Tian concludes.

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