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IIT-G designs multi-stage clinical trial method for revolutionising personalised medical care

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Focusing on Dynamic Treatment Regimes designed through Sequential Multiple Assignment Randomised Trials



Researchers at the Indian Institute of Technology Guwahati (IIT-G), in collaboration with leading institutions worldwide, have developed an innovative multi-stage clinical trial method aimed at revolutionising personalised medical care.

This cutting-edge approach adapts treatment plans in real-time based on each patient's unique responses during trials, enabling highly tailored and effective healthcare solutions.

The research, conducted in partnership with Duke-NUS Medical School, the National University of Singapore, Singapore, and the University of Michigan, USA, focuses on Dynamic Treatment Regimes (DTRs) designed through Sequential Multiple Assignment Randomised Trials (SMARTs). Together, these frameworks tackle the critical challenge of optimising treatment strategies, a sequence of treatments, for patients with varying responses to therapies over time.

Multi-stage clinical trials are essential for developing effective DTRs, and SMART methodology enables researchers to test various treatment sequences to find the best fit for each patient. Unlike traditional trials, SMART involves multiple stages of treatment, where patients are reassigned based on their responses to earlier interventions.

As a next step, the research team is collaborating with Indian medical institutions to conduct SMART trials for the effective management of mental health issues using traditional Indian medicines.