Does replication help with experimental biases in clinical trials?

David Teira

Universidad Nacional de Educación a Distancia

22/09/2017

This is an analysis of the role of replicability in correcting biases in the design and conduct of clinical trials. We take as biases those confounding factors that a community of experimenters acknowledges and for which there are agreed debiasing methods. When these methods are implemented in a trial, we will speak of unintended biases, if they occur. Replication helps in detecting and correcting them. Intended biases occur when the relevant debiasing method is not implemented. Their effect may be stable and replication, on its own, will not detect them. Interested outcomes are treatment variables that not every stakeholder considers clinically relevant. Again, they may be perfectly replicable. Intended biases, unintended biases and interested outcomes are often conflated in the so-called replicability crisis: our analysis shows that fostering replicability, on its own, will not sort out the crisis.