Assessing risk of bias in randomized controlled trials of methylphenidate for children and adolescents with attention deficit hyperactivity disorder (ADHD).


Abstract

To test how reliable the tool recommend by Cochrane Collaboration for assessing risk of bias systematic reviews of randomized clinical trials is in the context of methylphenidate for children and adolescents with attention deficit hyperactivity disorder. Confirmatory factor analysis was used to evaluate a unidimensional model for the 7 indicators, applied to 184 Randomized Clinical Trial (RCTs) within a 2015 Cochrane systematic review titled "Methylphenidate for children and adolescents with attention deficit hyperactivity disorder." A unidimensional model resulted in excellent adequacy indices, but only 2 indicators had very high factor loadings and low measurement errors. For such context, the 7 indicators showed poor reliability ($\omega = 0.642$), being set of indicators was precise in evaluating studies with a high amount of bias risk. The Cochrane model of risk of bias as it is exhibited goof fit indices but the majority of the items are not reliable to adequately capturing risk of bias in the context of clinical trials of methylphenidate for ADHD.