S1 Data. Overview of effect size calculations.

Part 1. Effect size calculations applied in the meta-analyses included in this review (see Fig 2).

When examining the difference between two conditions, effect size (ES) calculations based on standardized mean differences (SMD) are commonly recommended [1]. All meta-analyses included in this review reported SMD calculations, an overview of which is provided below.

1. SMD calculations reported by Schab et al. [2]:

"We employed the DerSimonian and Laird random effects model[58] with the standardized mean difference (SMD) as our measure of effect size (ES). The SMD describes the difference in outcome between the active and control arms of a trial in terms of the number of pooled standard deviations by which the two groups differ."

2. SMD calculations reported by Nigg et al. [3]:

"We computed effect sizes based on mean difference, standard deviation of differences, and across-condition correlation when those data were available."

"All effect sizes were converted to Hedges' g, a bias-free measure of standardized mean differences that can be interpreted in the same manner as the familiar Cohen's d."

"A random-effects model was chosen for analysis due to the likelihood that different studies would reflect different effect sizes based on their methods and samples."

3. SMD calculations reported by Benton [4]:

"Standardized mean differences (SMD) were calculated using the Hedges' g statistic under the fixed effects model. The heterogeneity statistic was then incorporated to calculate the summary standardized mean difference (SSMD) using the random effects model."

4: SMD calculations reported by Sonuga-Barke et al. [5]:

"Individual effect sizes (the standardized mean difference) were based on the recommended formula: mean pre- to post treatment change minus the mean pre- to post treatment control

group change divided by the pooled pretest standard deviation with a bias adjustment[23]."

"Given the heterogeneity of ADHD assessments, sample characteristics, and implementation of treatments within domains in the included studies, we chose a priori to use random-effects models, as recommended by Field and Gillett[27]."

5: SMD calculations reported by Gillies et al. [6]:

"We calculated the standardised mean difference (SMD) between groups and 95% CI using a fixed-effect model, or a random-effects model where there was significant heterogeneity. We used SMDs because more than one scale was used for each of these continuous outcomes."

Please note that in Gillies et al.'s analyses 1.2 and 1.5 – which are the analyses included in this review – the following approach was reported: SMD, inverse variance, fixed model [6].

Part 2. Effect size calculations applied in our recalculations and subgroup meta-analyses (see Fig 3, Fig 4 and S2 Fig).

The Standardized Mean Difference (SMD) reported in Fig 3, Fig 4 and S2 Fig (i.e. Cohen's d) was calculated using the metan command of STATA (version 14.1) and based on the following equation:

$$\text{SMD}=\frac{M_c - M_t}{SD_{pooled}} \text{ where } SD_{pooled} = \sqrt{\frac{SD_c^2*(n_c-1)+ SD_t^2*(n_t-1)}{(n_c+n_t-2)}}$$

M_c, M_t = mean of control and treatment group
SD_c, SD_t = standard deviation of control and treatment group
n_c, n_t = number of observations in control and treatment group

Cohen's d is a practical and valuable effect size comparison measure [1, 7], often used in ADHD research to establish the clinical effect of an intervention [8-11]. We applied the random effects model – in which study weights are more balanced than in the fixed effect model – to estimate the mean effect size [12].

The % Weight reported in Fig 3, Fig 4 and in S1 and S2 Figs provides information on the contribution of each study to the meta-analytic outcomes, and has been calculated based on the inverse variance of each study's effect size.

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