Quality assessment

24 clinical trials from published journals were assessed by the Cochrane Collaboration's risk of bias tool in this systematic review (figure 2). The overall quality of the trials was good. 12 of them showed low risk of attrition (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) and reporting bias while the other 12 trials showed unclear risk (13) (14) (15) (16) (17) (18) (Karron, Wright, Belshe, Thumar, Casey, Newman, Polack, Randolph, Deatly, Hackell, Gruber, et al., 2005) (19) (20) (21) (22) (P. F. Wright et al., 2000).

10 trials reported randomisation sequence generation (1) (2) (3) (4) (5) (6) (8) (9) (10) (11), and 7 studies showed allocation concealment (3) (5) (7) (8) (10) (11) (12). 18 trials blinded the participants and personnel (1) (13) (2) (3) (4) (5) (16) (6) (7) (8) (17) (9) (10) (11) (20) (21) (12) (23), and 16 blinded the outcome assessment (1) (13) (2) (3) (4) (5) (16) (6) (7) (8) (17) (9) (10) (11) (12) (23).

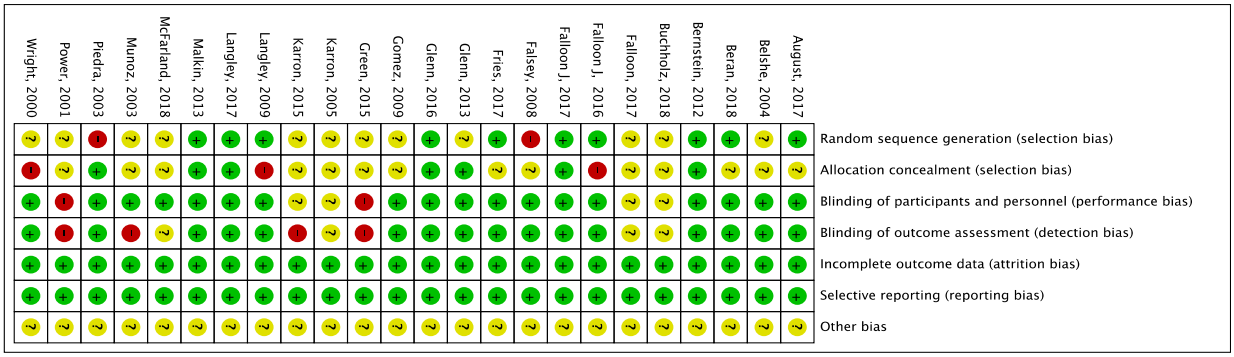

Figure 3 Summary of risk of bias in the trials from published journals

[1] ***List of studies***: August, 2017: (1); Belshe, 2004: (13); Beran, 2018: (2) Bernstein, 2012: (3); Buchholz, 2018: (14); Falloon, 2017: (15); Falloon J, 2016: (4); Falloon J, 2017: (5) Falsey, 2008: (16).; Fries, 2017: (6); Glenn, 2013: (7); Glenn, 2016: (8); Gomez, 2009: (17)**;** Green, 2015: (18); Karron, 2005: (Karron, Wright, Belshe, Thumar, Casey, Newman, Polack, Randolph, Deatly, Hackell, Gruber, et al., 2005); Karron, 2015: (19); Langley, 2009: (9); Langley, 2017 : (10); Malkin, 2013 : (11); McFarland, 2018: (20); Munoz, 2003: (21); Piedra, 2003: (12); Power, 2001: (22); Wright, 2000: (23). [2] The risk of bias summary shows the review author's judgement about each risk of bias item for each included study in published journal. A green circle (with a plus mark) indicates low risk of bias. A red circle (with a minus mark) indicates high risk of bias. A yellow circle (with question mark) represents unclear risk of bias. [3] Cochrane risk of bias assessment: low = average of 5/7 domains assessed as low risk of bias, high = average of 5/7 domains assessed as high risk of bias, and unclear for scores in between (24).

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