

Supplement Fig. 2. Risk of bias assessment for each key question (KQ) using Risk of Bias in Non-randomized Studies of Intervention (ROBINS-I), and Cochrane Risk-of-Bias Tool for Randomized Trials 2 (RoB 2).

KQ1

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Berkel 2022	+	+	-	+	+	+	+
Bousquet-Dion 2018	+	+	-	-	+	+	+
Carli 2020	+	+	-	-	+	+	+
de Klerk 2021	+	+	-	-	+	+	+
Gillis 2014	+	+	-	-	+	+	+
Gloor 2022	+	+	-	-	+	+	+
Li 2013	+	+	-	-	+	+	+
Lopez-Rodriguez-Arias 2021	+	+	-	-	+	+	+
Molenaar 2023	+	+	-	-	-	+	+
van der Hulst 2021	+	+	-	-	+	+	+

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Horie 2006	?	+	-	+	+	+	+
Lee 2023	+	+	+	+	+	+	+
Moya 2016	+	+	-	-	+	+	+
Moya 2016.05	+	+	+	+	+	+	+
Tesař 2022	+	+	-	+	+	+	+
Tesar 2023	+	+	-	-	+	+	+
Wierdak 2021	+	+	-	+	+	+	+
Xu 2006	+	+	-	-	+	+	+

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Ahsan 2014	?	+	?	?	+	+	+
Alia 2015	+	?	?	?	+	+	+
Bala 2014	+	?	?	+	+	+	+
Bhattarai 2011	?	+	?	?	+	+	+
Biswas 2003	+	?	+	+	+	+	+
Blitz 2012	?	?	?	?	+	+	+
Chatterjee 2017	+	+	+	?	+	+	+
Gautam 2008	+	?	+	+	+	+	+
Ghosh 2011	+	+	+	+	+	+	+
Jo 2012	+	+	+	?	+	+	?
Khan 2006	+	+	?	?	+	+	?
Kumar 2013	?	?	?	?	+	+	-
Mohammadi 2018	+	+	?	?	+	?	?
Nagappa 2022	+	+	?	+	+	?	?
Rajeeva 1999	+	?	?	?	+	+	+
Ryu 2013	+	-	+	+	+	+	+
Sahdo 2023	+	+	+	?	+	+	?

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Anjum 2017	+	+	+	?	+	+	?
Arezzo 2021	+	+	-	+	-	?	+
Ikeda 2016	+	+	-	+	+	+	-
Koskenvuo 2019	+	+	-	+	+	+	-
Oshima 2013	+	+	-	+	+	+	+
Ram 2005	+	-	-	?	+	-	?
Sadahiro 2014	+	+	-	-	+	-	-
Suzuki 2020	+	+	-	?	+	+	+
Uchino 2019	+	-	-	+	+	+	+
Yabata 1997	+	?	-	-	+	+	+

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Hamamoto 2018	+	?	-	-	?	?	+
Henriksen 2003	+	?	-	+	?	?	+
Kaska 2010	?	+	-	?	?	?	-
Lidder 2013	+	+	+	+	+	?	+
Noblett 2006	+	+	-	+	+	?	+
Rizvanovic 2019	+	+	-	+	+	+	+
Rizvanovic 2023	+	+	-	+	+	+	+
Sada 2014	+	+	+	+	+	+	+
Wang 2010	?	?	+	+	+	?	-
Webster 2014	+	+	-	+	+	?	+
Wongyingsinn 2019	+	+	+	+	+	?	+

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Brandstrup 2012	+	+	?	+	+	+	+
Cesur 2019	?	+	+	+	+	+	+
Challand 2012	?	?	?	+	+	+	+
Conway 2002	?	?	?	?	+	+	-
Gómez-Izquierdo 2017	+	+	+	+	+	+	+
Lee 2021	+	+	+	+	+	+	+
Liu 2019	+	?	+	+	?	?	-
Mahrose 2023	+	+	+	+	+	+	+
Noblett 2006	?	?	+	+	+	+	-
Phan 2014	+	+	-	+	+	+	+
Reisinger 2017	+	+	-	+	+	+	?
Senagore 2009	+	?	?	?	+	+	+
Srinivasa 2013	+	+	-	+	+	+	+
Wakeling 2005	+	+	+	?	+	+	+
Zakhaleva 2013	+	+	?	?	+	+	?

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Brown 2001	+	-	-	-	+	+	?
Johnson 1989	-	?	-	-	+	-	-
Merad 1998	+	+	-	-	+	+	+
Merad 1999	+	+	-	-	+	+	+
Quentin 2017	?	-	-	-	-	+	+
Sagar 1995	+	-	-	-	+	-	?

Lei 2004	?	?	1	?	?	?	1
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ROBINS-I








	Bias due to confounding	Bias in selection of participants into the study	Bias in classification of interventions	Bias in selection of the reported result	Bias due to deviations from intended interventions	Bias due to missing data	Bias in measurement of outcomes	Overall bias
Venara 2020	1	1	1	3	1	1	2	1
0:No information,1:Low,2:Moderate,3:Serious,4:Critical								

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Damadi 2019	?	?	?	?	+	+	+
Haruethaivijitchock 2020	+	+	+	+	+	+	+
Honaker 2021	?	+	?	?	+	+	-
Keller 2014	+	+	+	+	+	+	+
Liang 2021	+	+	+	+	+	+	+
Oh 2017	+	+	+	+	+	+	+
Pedrazzani 2021	+	+	+	+	+	+	+
Ping 2018	+	+	-	-	+	+	+
Ren 2022	+	+	+	+	+	+	+
Smith 2015	?	+	-	-	+	+	+
Tikuisis 2016	+	+	+	+	+	+	+
Walter 2013	+	+	+	+	+	+	+
Xu 2020	+	+	-	+	+	+	+
Zaghiyan 2019	+	+	-	-	+	+	+
Zhang 2023	?	?	+	+	+	+	-
Zhao 2021	+	+	+	+	+	+	+
Zheng 2018	+	+	-	+	+	+	+

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Becattini 2022	+	+	+	+	+	+	?
Kamachi 2020	+	+	?	?	+	?	?

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Benoist et al 1999	+	?	-	?	+	+	+
Coyle et al 2014	+	?	-	?	+	+	+
Patel et al 2018	+	?	-	?	+	+	+
Zmora et al 2010	+	?	-	?	+	+	+

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Binderow 1994	?	?	-	-	+	-	?
da Fonseca 2011	+	?	-	-	+	?	+
Dag 2011	+	?	-	-	+	?	?
El Nakeeb 2009	?	?	-	-	+	-	?
Feo 2004	+	?	-	-	-	?	?
Hartsell 1997	?	?	-	-	+	?	-
Nematihonar 2018	+	?	-	-	+	?	?
Nie 2021	?	?	-	-	+	?	-
Ortiz 1996	?	?	-	-	+	?	?
Reissman 1995	?	?	-	-	+	?	?
Stewart 1998	+	?	-	-	-	?	?
Yoo 1998	?	?	-	-	-	?	-
Zhou 2006	?	?	-	-	+	?	-

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Fiore Jr 2017							
Min 2023	