

**Supplementary Table 2.** Risk of bias of included randomized controlled trial studies

Study	Selection bias (random sequence generation)	Selection bias (allocation concealment)	Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
<b>MET</b>							
Anderson et al. (2017) [1]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Codner et al. (2013) [2]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Hamilton et al. (2003) [3]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Jacobsen et al. (2009) [4]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Khan et al. (2006) [16]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Libman et al. (2015) [7]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Lund et al. (2008) [5]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Meyer et al. (2002) [8]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Nadeau et al. (2015) [9]	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Nwosu et al. (2015) [10]	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Petrie et al. (2017) [11]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Pitocco et al. (2013) [13]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Sarnblad et al. (2003) [14]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Ziaee et al. (2017) [15]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
<b>AGI</b>							
Dimitriadis et al. (1988) [19]	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	Unclear risk
Hollander et al. (1997) [17]	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	Unclear risk
Kennedy et al. (1987) [23]	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	Unclear risk
Marena et al. (1991) [20]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Mcculloch et al. (1983) [21]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Riccardi et al. (1999) [18]	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	Unclear risk
Serrano-Rios et al. (1988) [22]	Unclear risk	Unclear risk	Low risk	Low risk	Unclear risk	Unclear risk	Unclear risk
<b>TZD</b>							
Bhat et al. (2007) [25]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Stone et al. (2008) [29]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Strowig et al. (2005) [26]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Tafuri et al. (2013) [27]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Zdravkovic et al. (2006) [28]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
<b>GLP-1 RA</b>							
Ahren et al. (2016) [30]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Dejgaard et al. (2016) [31]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Dube et al. (2018) [37]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Frandsen et al. (2015) [33]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Kuhadiya et al. (2016) [35]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Mathieu et al. (2016) [36]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk

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Supplementary Table 2. Continued

Study	Selection bias (random sequence generation)	Selection bias (allocation concealment)	Performance bias	Detection bias	Attrition bias	Reporting bias	Other bias
<b>DPP-4i</b>							
Ellis et al. (2011) [39]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Farnngren et al. (2012) [40]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Foley et al. (2008) [41]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Garg et al. (2013) [38]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
George et al. (2016) [42]	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Schopman et al. (2015) [43]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
<b>SGLT-2i</b>							
Biester et al. (2017) [56]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Dandona et al. (2017) [45]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Famulla et al. (2017) [47]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Garg et al. (2017) [49]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Henry et al. (2015) [50]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Kuhadiya et al. (2016) [53]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Pieber et al. (2015) [48]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Sands et al. (2015) [54]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Shimada et al. (2018) [55]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Buse et al. (2018) [44]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Danne et al. (2018) [46]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Mathieu et al. (2018) [65]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Rosenstock et al. (2018) [66]	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
<b>Pramlintide</b>							
Edelman et al. (2006) [57]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Herrmann et al. (2013) [60]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Ratner et al. (2004) [61]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Ratner et al. (2005) [62]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Riddle et al. (2015) [64]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Whitehouse et al. (2002) [63]	Unclear risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Unclear risk

MET, metformin; AGI, alpha glucosidase inhibitor; TZD, thiazolidinedione; GLP-1RA, glucagon-like peptide-1 receptor agonist; DPP-4i, dipeptidyl peptide 4 inhibitor; SGLT-2i, sodium glucose cotransporter 2 inhibitor.