

**Comparative efficacy of Glucagon-Like Peptide 1 (GLP-1) receptor agonists,
Pioglitazone and Vitamin E for liver histology among patients with Nonalcoholic
fatty liver disease: systematic review and pilot network meta-analysis of
randomized controlled trials
Supplementary Material**

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Appendix 1 Search strategies

1. Exenatide

PubMed

((("Non-alcoholic Fatty Liver Disease"[Mesh]) OR (((((((((((Non-alcoholic Fatty Liver Disease[Title/Abstract]) OR (Non alcoholic Fatty Liver Disease[Title/Abstract])) OR (NAFLD[Title/Abstract])) OR (Nonalcoholic Fatty Liver Disease[Title/Abstract])) OR (Fatty Liver, Nonalcoholic[Title/Abstract])) OR (Fatty Livers, Nonalcoholic[Title/Abstract])) OR (Liver, Nonalcoholic Fatty[Title/Abstract])) OR (Livers, Nonalcoholic Fatty[Title/Abstract])) OR (Nonalcoholic Fatty Liver[Title/Abstract])) OR (Nonalcoholic Fatty Livers[Title/Abstract])) OR (Nonalcoholic Steatohepatitis[Title/Abstract])) OR (Nonalcoholic Steatohepatitides[Title/Abstract])) OR (Steatohepatitides, Nonalcoholic[Title/Abstract])) OR (Steatohepatitis, Nonalcoholic[Title/Abstract])))) AND (("exenatide"[Mesh]) OR (((((((((((exenatide[Title/Abstract]) OR (Bydureon[Title/Abstract])) OR (ITCA 650[Title/Abstract])) OR (AC 2993 LAR[Title/Abstract])) OR (Exendin-4[Title/Abstract])) OR (Ex4 Peptide[Title/Abstract])) OR (Peptide, Ex4[Title/Abstract])) OR (Exendin 4[Title/Abstract])) OR (Byetta[Title/Abstract])) OR (AC 2993[Title/Abstract]))))

Web of science

TS= (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic) AND TS= (exenatide OR Bydureon OR ITCA 650 OR AC 2993 LAR OR Exendin-4 OR Ex4 Peptide OR Peptide, Ex4 OR Exendin 4 OR Byetta OR AC 2993)

Embase

#3 #1 AND #2

#2 exenatide:ab,ti OR Bydureon:ab,ti OR 'ITCA 650':ab,ti OR 'AC 2993 LAR':ab,ti OR 'Exendin-4':ab,ti OR 'Ex4 Peptide':ab,ti OR 'Peptide, Ex4':ab,ti OR 'Exendin 4':ab,ti OR Byetta:ab,ti OR 'AC 2993':ab,ti

#1 'Non-alcoholic Fatty Liver Disease':ab,ti OR 'Non alcoholic Fatty Liver Disease':ab,ti OR NAFLD:ab,ti OR 'Nonalcoholic Fatty Liver Disease':ab,ti OR 'Fatty Liver, Nonalcoholic':ab,ti OR 'Fatty Livers, Nonalcoholic':ab,ti OR 'Liver, Nonalcoholic Fatty':ab,ti OR 'Livers, Nonalcoholic Fatty':ab,ti OR 'Nonalcoholic Fatty Liver':ab,ti OR 'Nonalcoholic Fatty Livers':ab,ti OR 'Nonalcoholic Steatohepatitis':ab,ti OR 'Nonalcoholic Steatohepatitides':ab,ti OR 'Steatohepatitides, Nonalcoholic':ab,ti OR 'Steatohepatitis, Nonalcoholic':ab,ti

Cochrane library

#3 #1 AND #2

#2 (exenatide OR Bydureon OR ITCA 650 OR AC 2993 LAR OR Exendin-4 OR Ex4 Peptide OR Peptide, Ex4 OR Exendin 4 OR Byetta OR AC 2993):ti,ab,kw

#1 (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic):ti,ab,kw

2. Liraglutide

PubMed

((("Non-alcoholic Fatty Liver Disease"[Mesh]) OR (((((((((((Non-alcoholic Fatty Liver Disease[Title/Abstract]) OR (Non alcoholic Fatty Liver Disease[Title/Abstract])) OR (NAFLD[Title/Abstract])) OR (Nonalcoholic Fatty Liver Disease[Title/Abstract])) OR (Fatty Liver, Nonalcoholic[Title/Abstract])) OR (Fatty Livers, Nonalcoholic[Title/Abstract])) OR (Liver, Nonalcoholic Fatty[Title/Abstract])) OR (Livers, Nonalcoholic Fatty[Title/Abstract])) OR (Nonalcoholic Fatty Liver[Title/Abstract])) OR (Nonalcoholic Fatty Livers[Title/Abstract])) OR (Nonalcoholic Steatohepatitis[Title/Abstract]))

OR (Nonalcoholic Steatohepatitides[Title/Abstract])) OR (Steatohepatitides, Nonalcoholic[Title/Abstract])) OR (Steatohepatitis, Nonalcoholic[Title/Abstract])) AND (("liraglutide"[Mesh]) OR (((((((liraglutide[Title/Abstract]) OR (Victoza[Title/Abstract])) OR (Saxenda[Title/Abstract])) OR (NN 2211[Title/Abstract])) OR (2211, NN[Title/Abstract])) OR (NN2211[Title/Abstract])) OR (NN-2211[Title/Abstract]))))

Web of science

TS= (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic) AND TS= (liraglutide OR Victoza OR Saxenda OR NN 2211 OR 2211, NN OR NN2211 OR NN-2211)

Embase

#3 #1 AND #2

#2 liraglutide:ab,ti OR Victoza:ab,ti OR Saxenda:ab,ti OR 'NN 2211':ab,ti OR '2211, NN':ab,ti OR 'NN2211':ab,ti OR 'NN-2211':ab,ti

#1 'Non-alcoholic Fatty Liver Disease':ab,ti OR 'Non alcoholic Fatty Liver Disease':ab,ti OR NAFLD:ab,ti OR 'Nonalcoholic Fatty Liver Disease':ab,ti OR 'Fatty Liver, Nonalcoholic':ab,ti OR 'Fatty Livers, Nonalcoholic':ab,ti OR 'Liver, Nonalcoholic Fatty':ab,ti OR 'Livers, Nonalcoholic Fatty':ab,ti OR 'Nonalcoholic Fatty Liver':ab,ti OR 'Nonalcoholic Fatty Livers':ab,ti OR 'Nonalcoholic Steatohepatitis':ab,ti OR 'Nonalcoholic Steatohepatitides':ab,ti OR 'Steatohepatitides, Nonalcoholic':ab,ti OR 'Steatohepatitis, Nonalcoholic':ab,ti

Cochrane library

#3 #1 AND #2

#2 (liraglutide OR Victoza OR Saxenda OR NN 2211 OR 2211, NN OR NN2211 OR NN-2211):ti,ab,kw

#1 (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic):ti,ab,kw

3. Dulaglutide

PubMed

((("Non-alcoholic Fatty Liver Disease"[Mesh]) OR (((((((((((Non-alcoholic Fatty Liver Disease[Title/Abstract]) OR (Non alcoholic Fatty Liver Disease[Title/Abstract])) OR (NAFLD[Title/Abstract])) OR (Nonalcoholic Fatty Liver Disease[Title/Abstract])) OR (Fatty Liver, Nonalcoholic[Title/Abstract])) OR (Fatty Livers, Nonalcoholic[Title/Abstract])) OR (Liver, Nonalcoholic Fatty[Title/Abstract])) OR (Livers, Nonalcoholic Fatty[Title/Abstract])) OR (Nonalcoholic Fatty Liver[Title/Abstract])) OR (Nonalcoholic Fatty Livers[Title/Abstract])) OR (Nonalcoholic Steatohepatitis[Title/Abstract])) OR (Nonalcoholic Steatohepatitides[Title/Abstract])) OR (Steatohepatitides, Nonalcoholic[Title/Abstract])) OR (Steatohepatitis, Nonalcoholic[Title/Abstract])) AND (("dulaglutide"[Supplementary Concept]) OR (((((dulaglutide[Title/Abstract]) OR (LY 2189265[Title/Abstract])) OR (LY-2189265[Title/Abstract])) OR (LY2189265[Title/Abstract])) OR (Trulicity[Title/Abstract]))))

Web of science

TS= (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic) AND TS= (dulaglutide OR LY 2189265 OR LY-2189265 OR LY2189265 OR Trulicity)

Embase

#3 #1 AND #2

#2 dulaglutide:ab,ti OR 'LY 2189265':ab,ti OR 'LY-2189265':ab,ti OR 'LY2189265':ab,ti OR Trulicity:ab,ti

#1 'Non-alcoholic Fatty Liver Disease':ab,ti OR 'Non alcoholic Fatty Liver Disease':ab,ti OR NAFLD:ab,ti OR 'Nonalcoholic Fatty Liver Disease':ab,ti OR 'Fatty Liver, Nonalcoholic':ab,ti OR 'Fatty Livers, Nonalcoholic':ab,ti OR 'Liver, Nonalcoholic Fatty':ab,ti OR 'Livers, Nonalcoholic Fatty':ab,ti OR 'Nonalcoholic Fatty Liver':ab,ti OR 'Nonalcoholic Fatty Livers':ab,ti OR 'Nonalcoholic Steatohepatitis':ab,ti OR 'Nonalcoholic Steatohepatitides':ab,ti OR 'Steatohepatitides, Nonalcoholic':ab,ti OR 'Steatohepatitis, Nonalcoholic':ab,ti

Cochrane library

#3 #1 AND #2

#2 (dulaglutide OR LY 2189265 OR LY-2189265 OR LY2189265 OR Trulicity):ti,ab,kw

#1 (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic):ti,ab,kw

4. Semaglutide

PubMed

((("Non-alcoholic Fatty Liver Disease"[Mesh]) OR (((((((((((Non-alcoholic Fatty Liver Disease[Title/Abstract]) OR (Non alcoholic Fatty Liver Disease[Title/Abstract])) OR (NAFLD[Title/Abstract])) OR (Nonalcoholic Fatty Liver Disease[Title/Abstract])) OR (Fatty Liver, Nonalcoholic[Title/Abstract])) OR (Fatty Livers, Nonalcoholic[Title/Abstract])) OR (Liver, Nonalcoholic Fatty[Title/Abstract])) OR (Livers, Nonalcoholic Fatty[Title/Abstract])) OR (Nonalcoholic Fatty Liver[Title/Abstract])) OR (Nonalcoholic Fatty Livers[Title/Abstract])) OR (Nonalcoholic Steatohepatitis[Title/Abstract])) OR (Nonalcoholic Steatohepatitides[Title/Abstract])) OR (Steatohepatitides, Nonalcoholic[Title/Abstract])) OR (Steatohepatitis, Nonalcoholic[Title/Abstract])))) AND (("semaglutide"[Supplementary Concept]) OR (((semaglutide[Title/Abstract]) OR (rybelsus[Title/Abstract])) OR (Ozempic[Title/Abstract]))))

Web of science

TS= (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic) AND TS= (semaglutide OR rybelsus OR Ozempic)

Embase

#3 #1 AND #2

#2 semaglutide:ab,ti OR rybelsus:ab,ti OR Ozempic:ab,ti

#1 'Non-alcoholic Fatty Liver Disease':ab,ti OR 'Non alcoholic Fatty Liver Disease':ab,ti OR NAFLD:ab,ti OR 'Nonalcoholic Fatty Liver Disease':ab,ti OR 'Fatty Liver, Nonalcoholic':ab,ti OR 'Fatty Livers, Nonalcoholic':ab,ti OR 'Liver, Nonalcoholic Fatty':ab,ti OR 'Livers, Nonalcoholic Fatty':ab,ti OR 'Nonalcoholic Fatty Liver':ab,ti OR 'Nonalcoholic Fatty Livers':ab,ti OR 'Nonalcoholic Steatohepatitis':ab,ti OR 'Nonalcoholic Steatohepatitides':ab,ti OR 'Steatohepatitides, Nonalcoholic':ab,ti OR 'Steatohepatitis, Nonalcoholic':ab,ti

Cochrane library

#3 #1 AND #2

#2 (semaglutide OR rybelsus OR Ozempic):ti,ab,kw

#1 (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic):ti,ab,kw

5. Pioglitazone

PubMed

((("Non-alcoholic Fatty Liver Disease"[Mesh]) OR (((((((((((Non-alcoholic Fatty Liver Disease[Title/Abstract]) OR (Non alcoholic Fatty Liver Disease[Title/Abstract])) OR (NAFLD[Title/Abstract])) OR (Nonalcoholic Fatty Liver Disease[Title/Abstract])) OR (Fatty Liver, Nonalcoholic[Title/Abstract])) OR (Fatty Livers, Nonalcoholic[Title/Abstract])) OR (Liver, Nonalcoholic Fatty[Title/Abstract])) OR (Livers, Nonalcoholic Fatty[Title/Abstract])) OR (Nonalcoholic Fatty Liver[Title/Abstract])) OR (Nonalcoholic Fatty Livers[Title/Abstract])) OR (Nonalcoholic Steatohepatitis[Title/Abstract])) OR (Nonalcoholic Steatohepatitides[Title/Abstract])) OR (Steatohepatitides, Nonalcoholic[Title/Abstract])) OR (Steatohepatitis, Nonalcoholic[Title/Abstract]))) AND ((("Pioglitazone "[Mesh]) OR ((((((((((Pioglitazone[Title/Abstract]) OR (5-(4-(2-(5-Ethyl-2-pyridyl)ethoxy)benzyl)-2,4-thiazolidinedione[Title/Abstract])) OR (U 72107A[Title/Abstract])) OR ("U72,107A"[Title/Abstract])) OR (U-72107A[Title/Abstract])) OR (U72107A[Title/Abstract])) OR (AD 4833[Title/Abstract])) OR (AD 4833[Title/Abstract])) OR (AD4833[Title/Abstract])) OR (Pioglitazone Hydrochloride[Title/Abstract])) OR (Actos[Title/Abstract]))))

Web of science

TS= (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic) AND TS= (Pioglitazone OR 5-(4-(2-(5-Ethyl-2-pyridyl)ethoxy)benzyl)-2,4-thiazolidinedione OR U 72107A OR U72,107A OR U-72,107A OR U72107A OR AD 4833 OR AD-4833 OR AD4833 OR Pioglitazone Hydrochloride OR Actos)

Embase

#3 #1 AND #2

#2 'Pioglitazone':ab,ti OR '5-(4-(2-(5-Ethyl-2-pyridyl)ethoxy)benzyl)-2,4-thiazolidinedione':ab,ti OR 'U 72107A':ab,ti OR 'U72,107A':ab,ti OR 'U-72,107A':ab,ti OR 'U72107A':ab,ti OR 'AD 4833':ab,ti OR 'AD-4833':ab,ti OR 'AD4833':ab,ti OR 'Pioglitazone Hydrochloride':ab,ti OR 'Actos':ab,ti

#1 'Non-alcoholic Fatty Liver Disease':ab,ti OR 'Non alcoholic Fatty Liver Disease':ab,ti OR 'NAFLD':ab,ti OR 'Nonalcoholic Fatty Liver Disease':ab,ti OR 'Fatty Liver, Nonalcoholic':ab,ti OR 'Fatty Livers, Nonalcoholic':ab,ti OR 'Liver, Nonalcoholic Fatty':ab,ti OR 'Livers, Nonalcoholic Fatty':ab,ti OR 'Nonalcoholic Fatty Liver':ab,ti OR 'Nonalcoholic Fatty Livers':ab,ti OR 'Nonalcoholic Steatohepatitis':ab,ti OR 'Nonalcoholic Steatohepatitides':ab,ti OR 'Steatohepatitides, Nonalcoholic':ab,ti OR 'Steatohepatitis, Nonalcoholic':ab,ti

Cochrane

#3 #1 AND #2

#2 (Pioglitazone OR U 72107A OR U72,107A OR U-72,107A OR U72107A OR AD 4833 OR AD-4833 OR AD4833 OR Pioglitazone Hydrochloride OR Actos):ti,ab,kw

【5-(4-(2-(5-Ethyl-2-pyridyl)ethoxy)benzyl)-2,4-thiazolidinedione 未加】

#1 (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic):ti,ab,kw

6. Vitamin E

PubMed

((("Non-alcoholic Fatty Liver Disease"[Mesh]) OR (((((((((((Non-alcoholic Fatty Liver Disease[Title/Abstract]) OR (Non alcoholic Fatty Liver Disease[Title/Abstract])) OR (NAFLD[Title/Abstract])) OR (Nonalcoholic Fatty Liver Disease[Title/Abstract])) OR (Fatty Liver, Nonalcoholic[Title/Abstract])) OR (Fatty Livers, Nonalcoholic[Title/Abstract])) OR (Liver, Nonalcoholic Fatty[Title/Abstract])) OR (Livers, Nonalcoholic Fatty[Title/Abstract])) OR (Nonalcoholic Fatty

Liver[Title/Abstract])) OR (Nonalcoholic Fatty Livers[Title/Abstract])) OR (Nonalcoholic Steatohepatitis[Title/Abstract])) OR (Nonalcoholic Steatohepatitides[Title/Abstract])) OR (Steatohepatitides, Nonalcoholic[Title/Abstract])) OR (Steatohepatitis, Nonalcoholic[Title/Abstract])) AND (("Vitamin E "[Mesh]) OR (Vitamin E[Title/Abstract]))

Web of science

TS= (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic) AND TS= (Vitamin E)

Embase

#3 #1 AND #2

#2 'Vitamin E':ab,ti

#1 'Non-alcoholic Fatty Liver Disease':ab,ti OR 'Non alcoholic Fatty Liver Disease':ab,ti OR NAFLD:ab,ti OR 'Nonalcoholic Fatty Liver Disease':ab,ti OR 'Fatty Liver, Nonalcoholic':ab,ti OR 'Fatty Livers, Nonalcoholic':ab,ti OR 'Liver, Nonalcoholic Fatty':ab,ti OR 'Livers, Nonalcoholic Fatty':ab,ti OR 'Nonalcoholic Fatty Liver':ab,ti OR 'Nonalcoholic Fatty Livers':ab,ti OR 'Nonalcoholic Steatohepatitis':ab,ti OR 'Nonalcoholic Steatohepatitides':ab,ti OR 'Steatohepatitides, Nonalcoholic':ab,ti OR 'Steatohepatitis, Nonalcoholic':ab,ti

Cochrane

#3 #1 AND #2

#2 (Vitamin E):ti,ab,kw

#1 (Non-alcoholic Fatty Liver Disease OR Non alcoholic Fatty Liver Disease OR NAFLD OR Nonalcoholic Fatty Liver Disease OR Fatty Liver, Nonalcoholic OR Fatty Livers, Nonalcoholic OR Liver, Nonalcoholic Fatty OR Livers, Nonalcoholic Fatty OR Nonalcoholic Fatty Liver OR Nonalcoholic Fatty Livers OR Nonalcoholic Steatohepatitis OR Nonalcoholic Steatohepatitides OR Steatohepatitides, Nonalcoholic OR Steatohepatitis, Nonalcoholic):ti,ab,kw

Appendix 2 Included studies

Study	Year	Country/Region	Age (years)	Male(%)	Number of participants	Combined disease	Randomised treatments	Dose
Belfort et al	2006	USA	51±10	33.3	21	IPG/T2DM	placebo	45mg once daily
			51±7	53.8	26	IPG/T2DM	Pioglitazone	45mg once daily
Aithal et al	2008	UK	55 (27–73)	51.4	37	without T2DM	placebo	30mg once daily
			52 (28–71)	70.3	37	without T2DM	Pioglitazone	30mg once daily
Sanyal et al	2010	USA	45.4±11.2	42	83	NR	placebo	30mg once daily
			46.6±12.1	38	84	NR	Vitamin E	800 IU daily
			47.0±12.6	41	80	NR	Pioglitazone	30mg once daily
Lavine et al	2011	USA	13.4(2.3)	81	58	NR	Vitamin E	800IU daily
			12.9(2.6)	79.3	58	NR	Placebo	NR
Armstrong et al	2016	UK	51±11.44	59.6	22	NR	placebo	1.8mg daily
			51±11.44	59.6	23	NR	liraglutide	0.6mg-1.8mg daily
Cusi et al	2016	USA	49±11	35(69%)	51	IPG/T2DM	placebo	45mg once daily
			52±10	36 (72%)	50	IPG/T2DM	Pioglitazone	45mg once daily
Bril et al	2019	USA	57±11	30/32(93.8%)	32	Type 2 Diabetes	Placebo	NR
			60±9	33/36(91.7%)	36	Type 2 Diabetes	Vitamin E	400 IU daily
			60±6	30/37(81.1%)	37	Type 2 Diabetes	Vitamin E +pioglitazone	400IU daily+45mg daily
Newsome et al	2021	UK	55	39.0	80	Type-2 diabetes	Placebo	0.1-0.4 mg once daily

			55	39.0	80	Type-2 diabetes	Semaglutide	0.1 mg once daily
			55	39.0	78	Type-2 diabetes	Semaglutide	0.2 mg once daily
			55	39.0	82	Type-2 diabetes	Semaglutide	0.4 mg once daily
Huang et al	2021	Taiwan	43.8 ± 11.9	39 (83.0%)	47	IPG/T2DM	placebo	30mg once daily
			43.9 ± 13.7	27 (62.8%)	43	IPG/T2DM	Pioglitazone	30mg once daily

NR: not report

Appendix 3 Risk of bias in included studies

Study	Trial registration	Number of participants	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and investigators (performance and detection bias)	Blinding of outcome assessment (performance and detection bias)	Incomplete data (attrition bias)	Selective reporting (reporting bias)
Belfort2006	NCT00227110	47	Low	Unclear	Unclear	Low	Low	Low
Aithal2008	N0192119052	74	Low	Low	Low	Low	Low	Unclear
Sanyal2010	NCT00063622	247	Low	Unclear	Unclear	Unclear	Low	Low
Lavine2011	NCT00063635	173	Low	Unclear	Low	Low	Low	Low
Armstrong2016	NCT01237119	52	Low	Low	Low	Low	Low	Unclear
Newsome2021	NCT02970942	320	Low	Low	Low	Unclear	Low	Unclear
Bril2019	NCT01002547	105	Low	Low	Unclear	Low	Low	Low
Cusi2016	NCT00994682	63	Low	Low	Unclear	Low	Low	Low
Huang2021	NCT01068444	90	Low	Low	Low	Unclear	Low	Low

Appendix 4 Evaluations of network inconsistency

Outcome	Global consistency	
	Chi square	P value
Steatosis score (0-3)	0.02	0.8935
Lobular inflammation (0-3)	1.68	0.1947
Ballooning necrosis (0-2)	0.16	0.6861
Fibrosis (0-4)	0.00	0.9591
Alanine Aminotransferase (ALT)	0.23	0.6321
Aspartate Aminotransferase (AST)	0.46	0.4986
γ -Glutamyl Transferase (GGT)	0.12	0.7278
Body Weight (BW)	0.04	0.8381
Body Mass Index (BMI)	1.47	0.2259
Blood Lipids [Total Cholesterol(TC)	0.56	0.4554
Triglycerides (TG)	0.36	0.5493
High Density Lipoprotein-Cholesterol (HDL-C)	0.02	0.8823
Low Density Lipoprotein-Cholesterol (LDL-C)	0.31	0.5783

Appendix 5 Funnel plots for each outcome

Figure 1 Funnel plot for Steatosis score

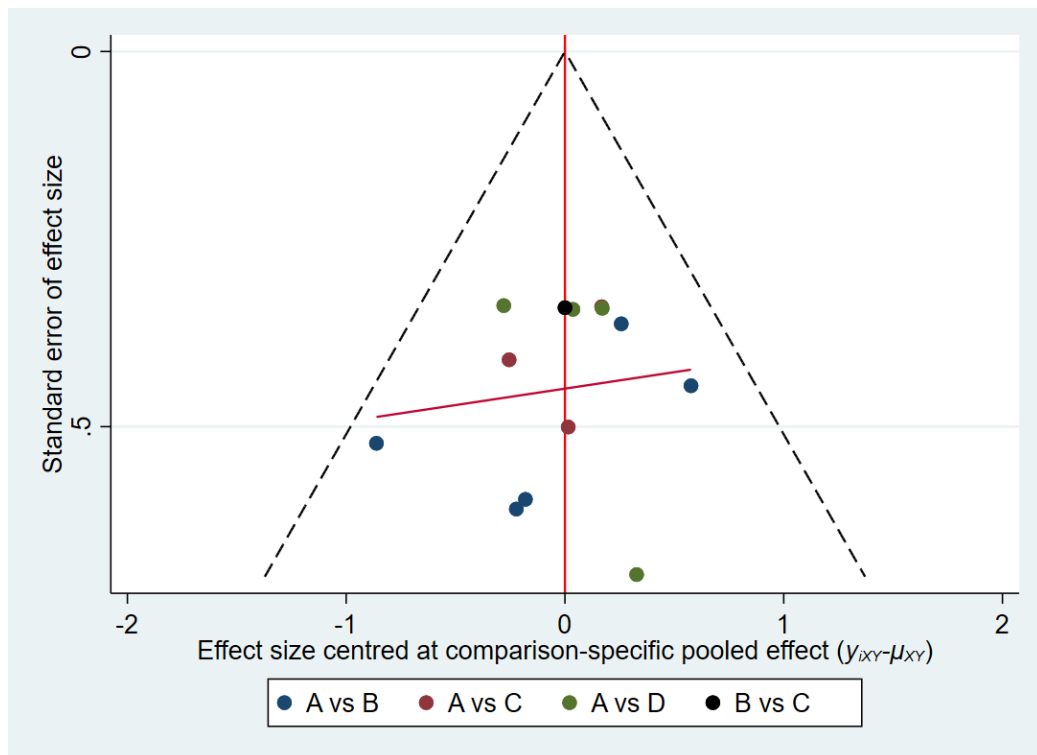


Figure 2 Funnel plot for Lobular inflammation

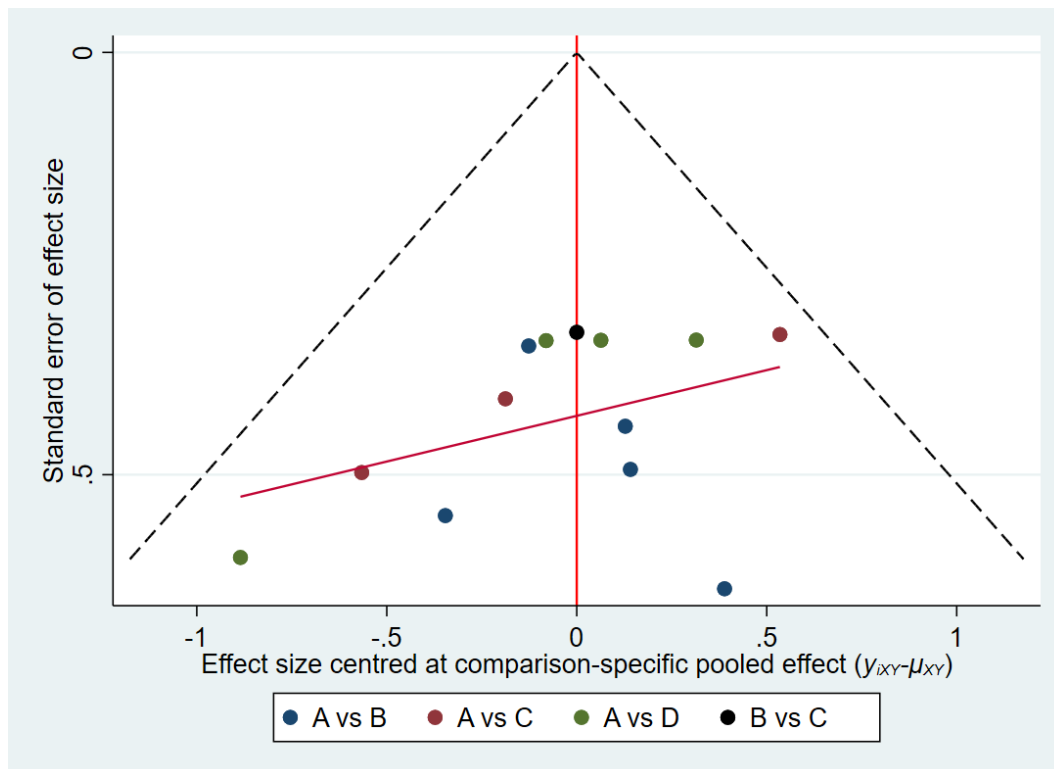


Figure 3 Funnel plot for Ballooning necrosis

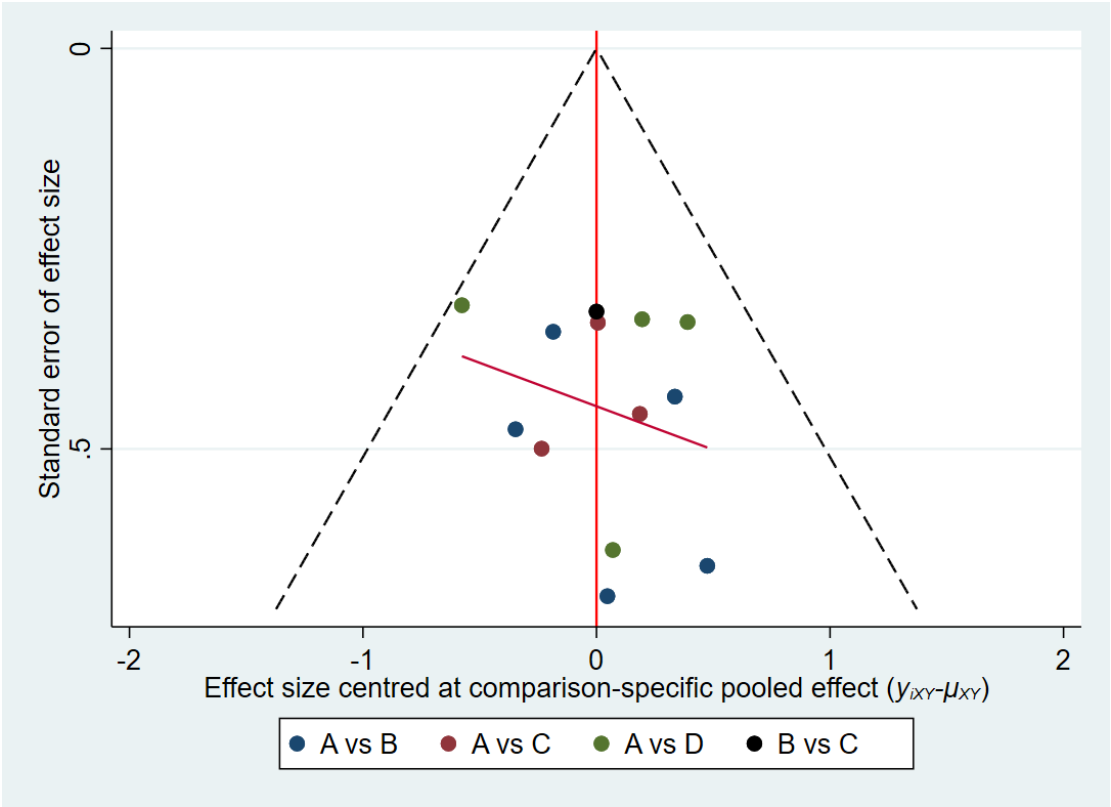


Figure 4 Funnel plot for Fibrosis

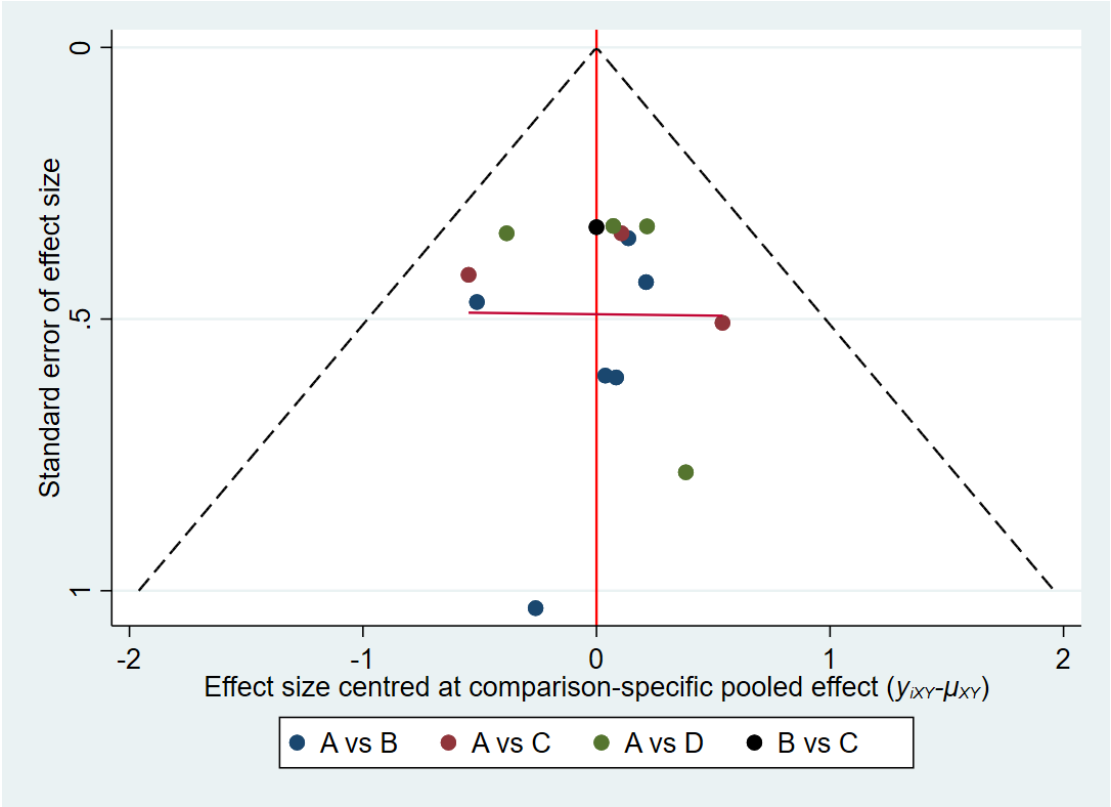


Figure 5 Funnel plot for alanine aminotransferase (ALT)

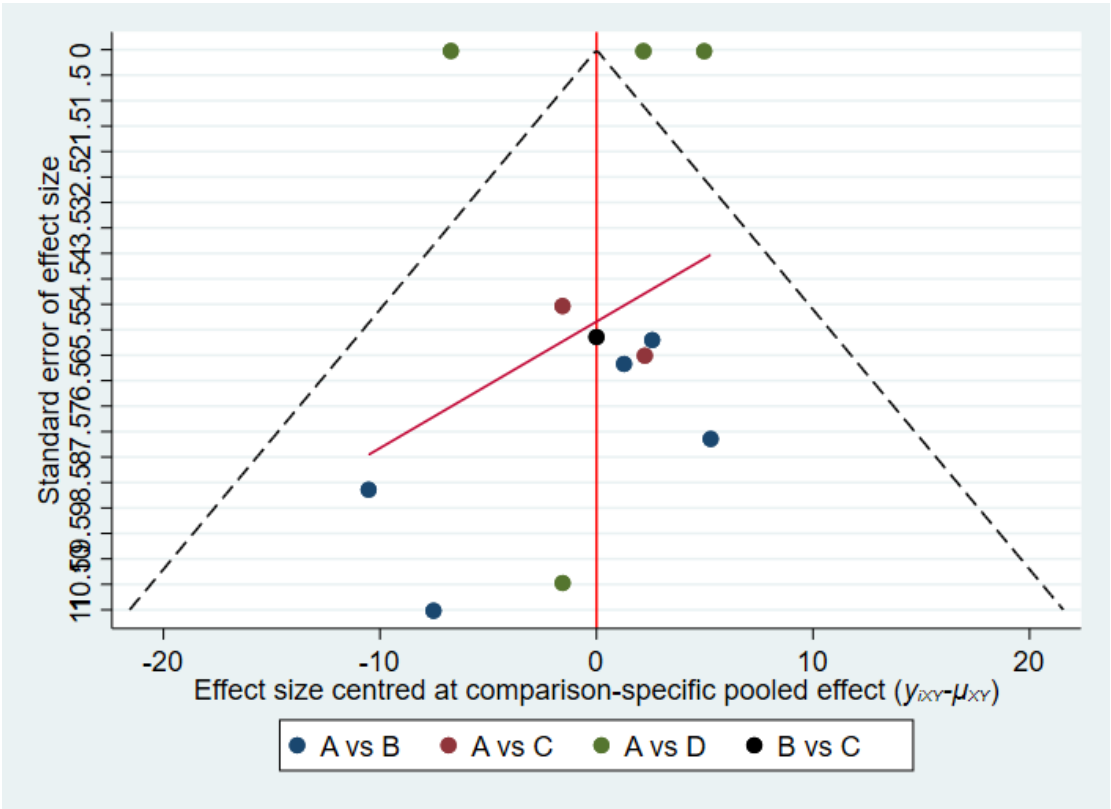


Figure 6 Funnel plot for aspartate aminotransferase (AST)

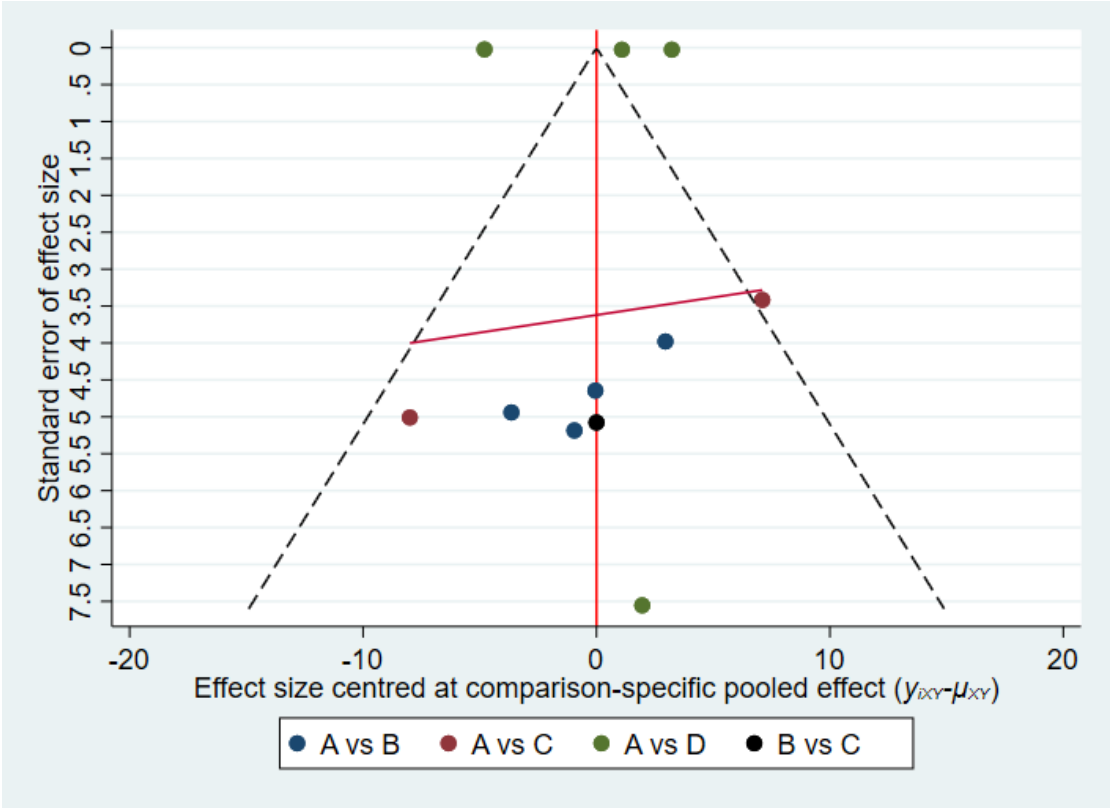


Figure 7 Funnel plot for γ -glutamyl transferase (GGT)

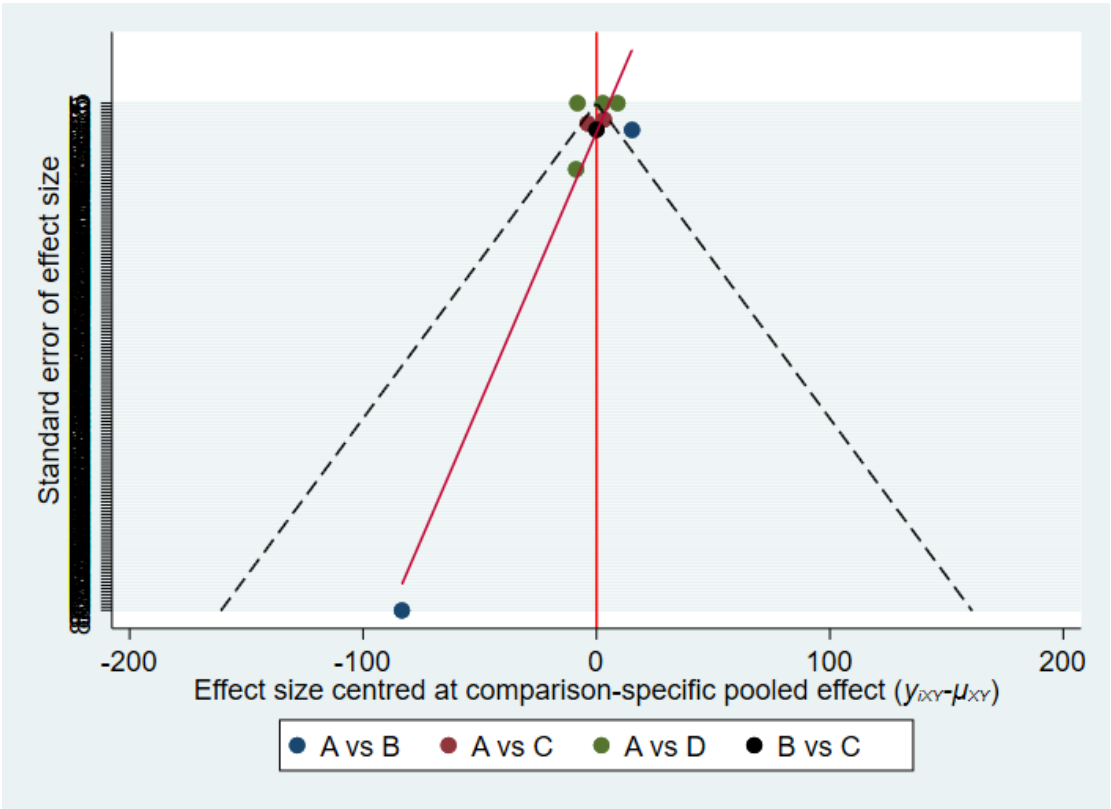


Figure 8 Funnel plot for body weight (BW)

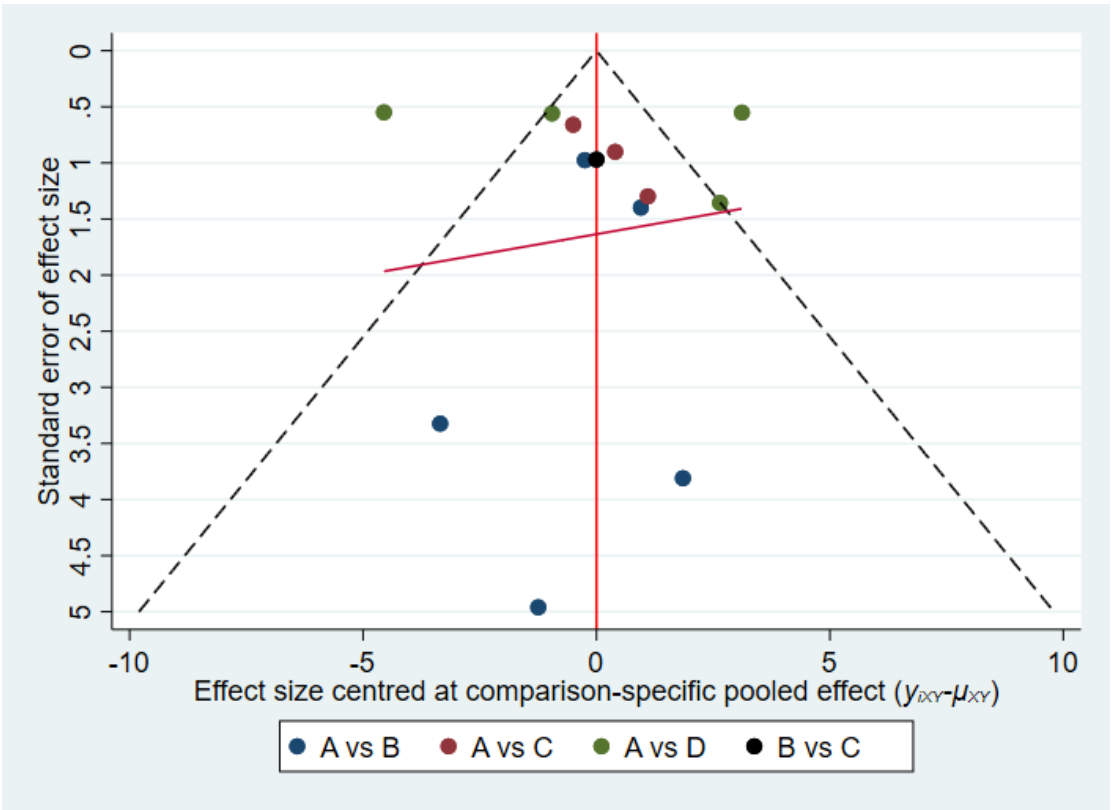


Figure 9 Funnel plot for body mass index (BMI)

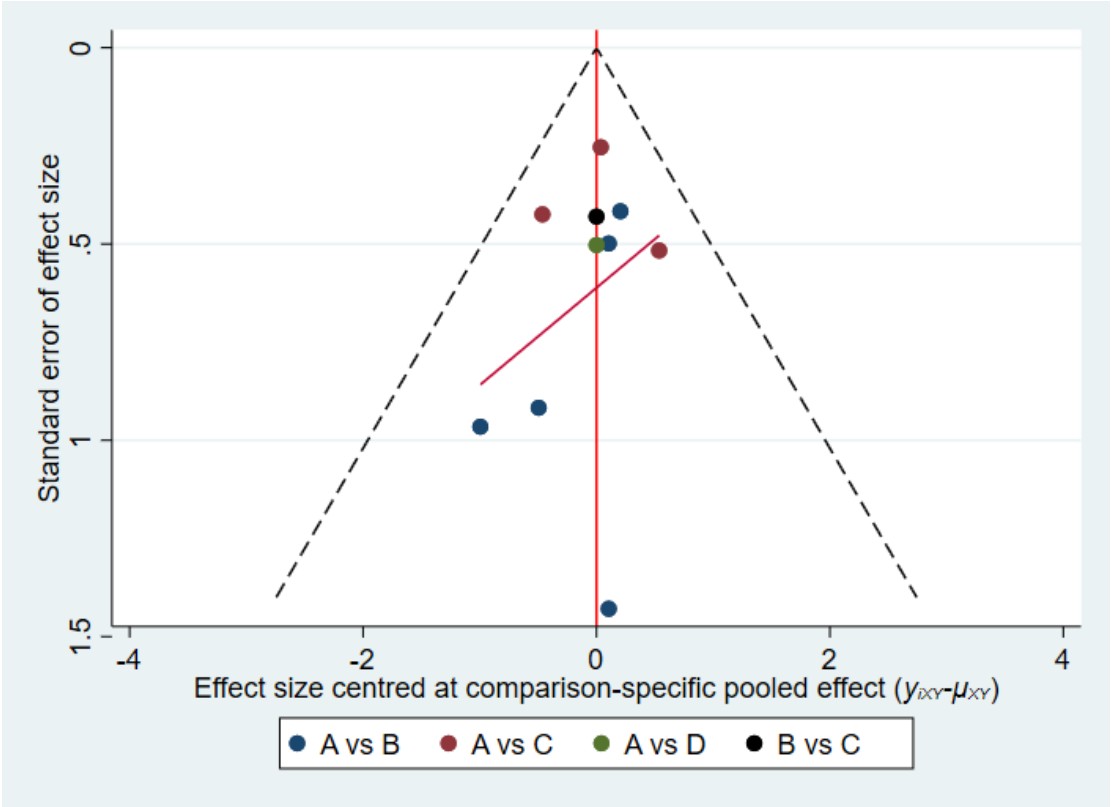


Figure 10 Funnel plot for blood lipids [total cholesterol(TC)]

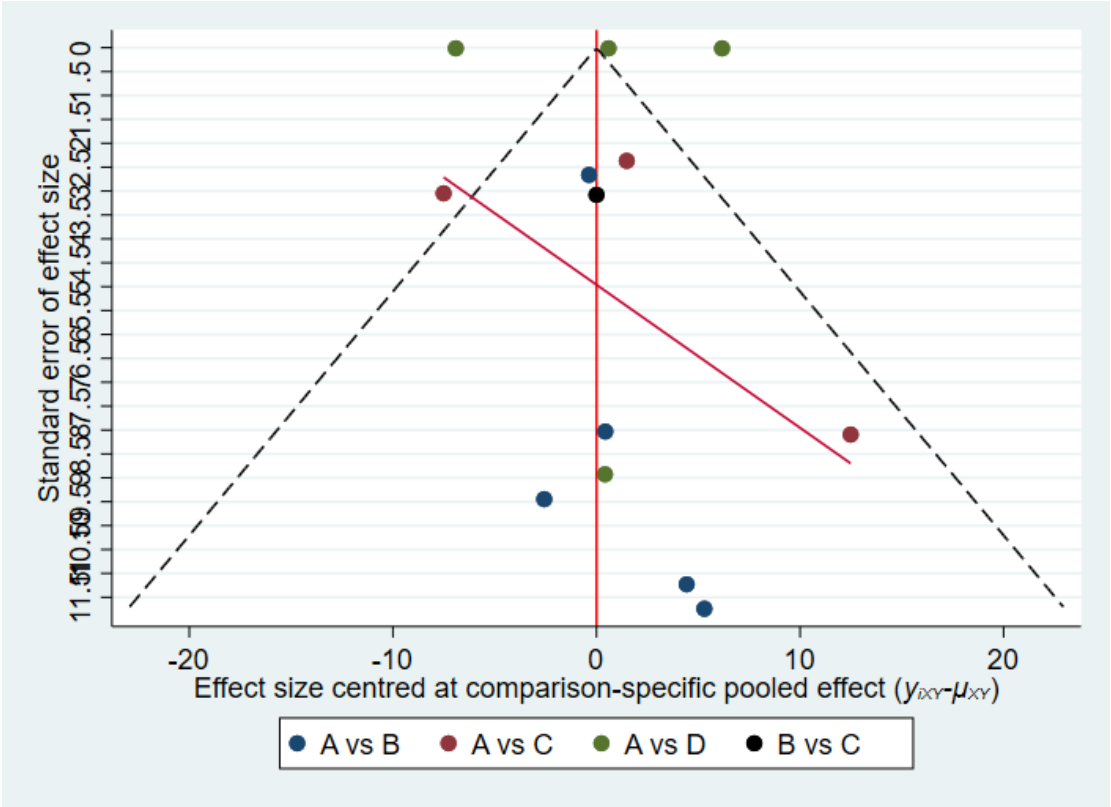


Figure 11 Funnel plot for triglycerides (TG)

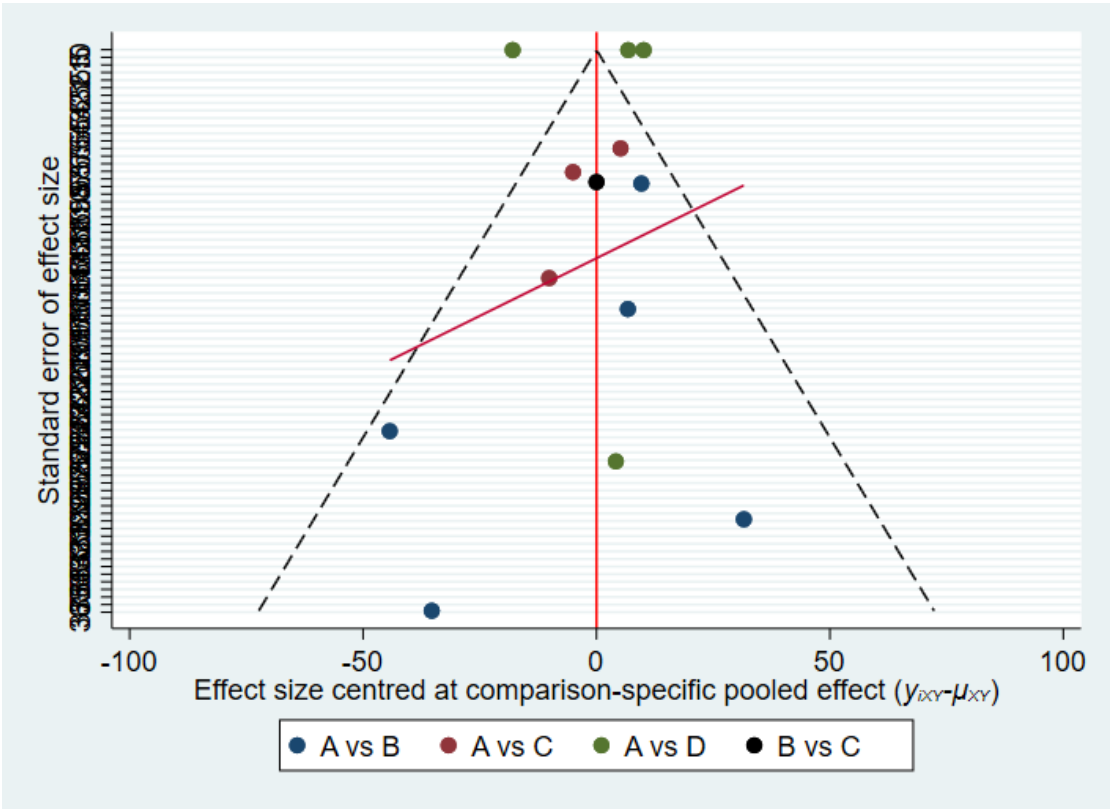


Figure 12 Funnel plot for high density lipoprotein-cholesterol (HDL-C)

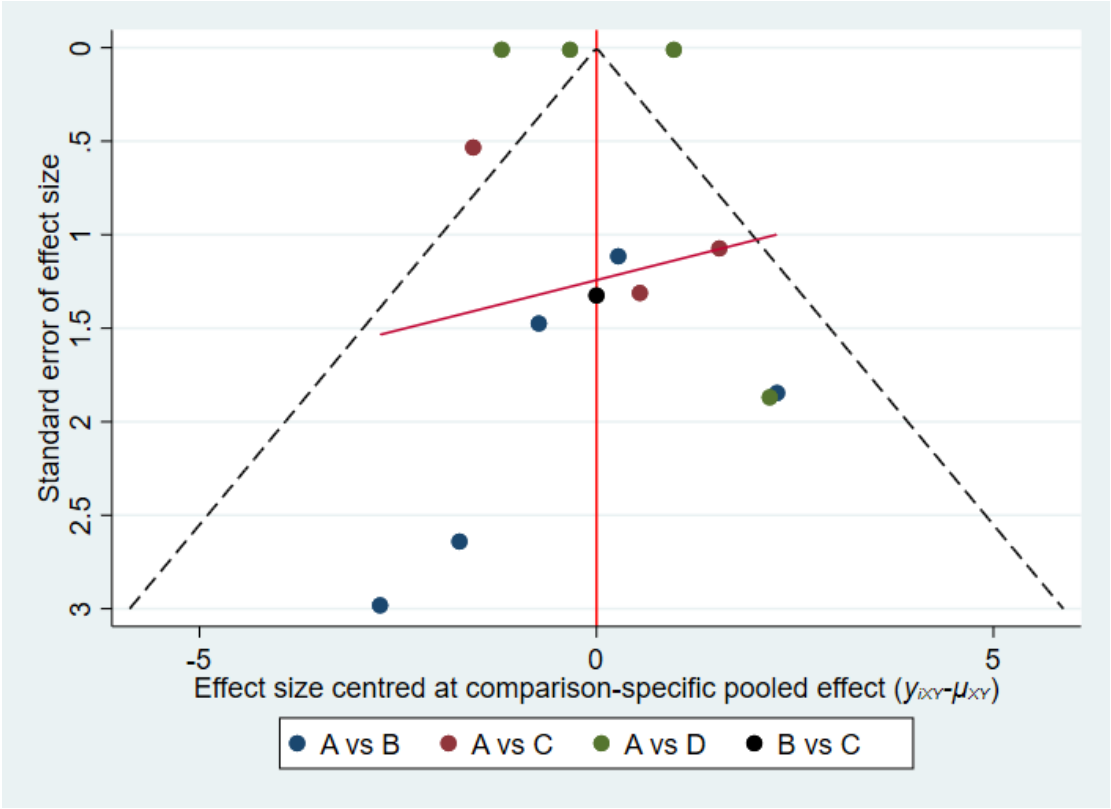


Figure 13 Funnel plot for low density lipoprotein-cholesterol (LDL-C)

