

**Table S1.** The methodologies for the detection of microparticles in the included studies.

Study ID	Country	Detection method			Sample handle		
		Equipment		Gate threshold	Container	Centrifugation	Collection time/Storage
Nomura, S. 1995 [1]	Japan	Flow cytometry	FACS Canto	BD standard beads	3.8% sodium citrate	200g, 10min; 1,400g, 10min	NM
Watala, C. 1998 [2]	Poland	Flow cytometry	FACS Calibur with Lysis I1 software	MPs as small and larger platelet aggregates	Acid-citrate-dextrose	200g, 20min; 2,500g, 15min	NM
Omoto, S. 1999 [3]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	Gate set at the left ward limit of the forward-scatter profile of resting platelets	3.8% sodium citrate	200g, 10min; 1,400g, 10min	Stored at 4°C
Nomura, S. 2000 [4]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	Gate set at the left ward limit of the forward-scatter profile of resting platelets	3.8% sodium citrate	200g, 10min; 1,400g, 10min	Stored at 4°C
Sabatier, F. 2002 [5]	France	Flow cytometry	EPICS	0.8µm beads	0.129 mol/l sodium citrate		Frozen at -80°C
Diamant, M. 2002 [6]	Netherlands	Flow cytometry	FACS Canto with Cell Quest software	100 - 500nm beads	3.2% trisodium citrate	1,550g, 20min	After overnight fast, stored at -80°C
Nomura, S. 2002 [7]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	Gate set at the left ward limit of the forward-scatter profile of resting platelets	3.8% sodium citrate	200g, 10min; 1,400g, 10min	Stored at 4°C
Nomura, S. 2003 [8]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	Gate set at the left ward limit of the forward-scatter profile of resting platelets	3.8% sodium citrate	200g, 10min; 1,400g, 10min	Stored at 4°C
Shouzu, A. 2004 [9]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	Gate set at the left ward limit of the forward-scatter profile of resting platelets	3.8% sodium citrate	200g, 10min; 1,400g, 10min	Stored at 4°C
Morel, O. 2004 [10]	France	Prothrombinase assay	Microtitration plate reader	NM	12.9mM citrate	1,500, 10min; 12,000, 1min	Mixed FXa, FVa, FII, Ca <sup>2+</sup>

Nomura, S. 2004 [11]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	NM	NM	NM	Mixed with antibody, diluted 1:10 with HEPES-Tyrode's buffer and 5nmol/l EGTA
Nomura, S. 2004a [12]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	3µm beads	3.8% sodium citrate	200g, 10min; 1,400g, 10min	Stored at 4°C
Nomura, S. 2004b [13]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	Gate set at the left ward limit of the forward-scatter profile of resting platelets	Trisodium citrate	200g, 10min; 800g, 10min	NM
Nomura, S. 2004c [14]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	Gate set at the left ward limit of the forward-scatter profile of resting platelets	Sodium citrate	200g, 10min; 1,400g, 10min	Stored at 4°C
Sommeijer, D.W. 2005 [15]	Holland	Flow cytometry	FACS Calibur with Cell Quest software	100 - 500nm	Standard venepuncture	1,550g, 20min	After 12h of fasting, stored at -80°C
Koga, H. 2005 [16]	Japan	Flow cytometry	FACS Calibur	Gate < 1.5µm	Sodium citrate	160g, 10min; 6,000g, 1min	After 12h overnight fast
Tan, K.T. 2005 [17]	UK	Flow cytometry	FACS Canto	1.01µm beads	Diatube-H vacutainer	1,500g, 20min	NM
Nomura, S. 2005 [18]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	Gate set at the left ward limit of the forward-scatter profile of resting platelets	3.8% sodium citrate	1,000g, 15min	Stored at 4°C
Nomura, S. 2005a [19]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	Gate set at the left ward limit of the forward-scatter profile of resting platelets	Trisodium citrate	200g, 10min; 800g, 10min	NM
Nomura, S. 2005b [20]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	NM	NM	NM	Mixed with antibody, diluted 1:10 with HEPES-Tyrode's buffer containing 5nmol/l EGTA

Nomura, S. 2006 [21]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	NM	NM	NM	Mixed with antibody, diluted 1:10 with HEPES-Tyrode's buffer containing 5nmol/l EGTA
Koga, H. 2006 [22]	Japan	Flow cytometry	FACS Calibur	Gate < 1.5µm	Sodium citrate	160g, 10min; 6,000g, 1min	After 12h overnight fast
Esposito, K. 2007 [23]	Italy	Flow cytometry	FACS Calibur	Gate < 1.5µm	Sodium citrate	160g, 10min; 900g, 10min	Morning after overnight fast
Nomura, S. 2007 [24]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	Gate set at the left ward limit of the forward-scatter profile of resting platelets	3.8% sodium citrate	200g, 10min; 1,400g, 10min	Stored at 4°C
Tushuizen, M.E. 2007 [25]	Netherlands	Flow cytometry	FACS Canto with Cell Quest software	BD standard beads	NM	1,550g, 20min	3 meals, before breakfast and at fixed intervals following the first meal, stored at -80°C
Inami, N. 2008 [26]	Japan	ELISA kit	NM	NM	Sodium citrate	1,000g, 20min	Frozen at -30°C
Raturi, A. 2008 [27]	USA	Flow cytometry	Cytomics FC500	0.5µm beads	NM	1,000g, 20min; 5,000g, 15min; 5,000g, 15min; 35,000g, 45min	NM
Esposito, K. 2008 [28]	Italy	Flow cytometry	FACS Calibur	6µm beads, gate < 1.5µm	Sodium citrate	160g, 10min; 900g, 10min	Morning after overnight fast
Razmara, M. 2008 [29]	Sweden	flow cytometry	EPICS	10µm A23187-stimulated platelet	129mM trisodium citrate	190g, 10min; 1,400g, 10min	2 h after breakfast
Shimazu, T. 2009 [30]	Japan	ELISA kit	NM	NM	Containing EDTA-ACD	8,000g, 5min	Frozen at -40°C
Van Dreden, P. 2009 [31]	Australia	XaCT	Automated coagulation	NM	3.8% sodium citrate	100g, 15min; 2,500g, 20min,	Stored at -70°C

			analyzer			10min	
Nomura, S. 2009 [32]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	Gate set at the left ward limit of the forward-scatter profile of resting platelets	Containing EDTA-ACD	200g, 10min; 1,000g, 15min	Stored at 4°C
Nomura, S. 2009a [33]	Japan	ELISA kit	NM	NM	Containing EDTA-ACD	8,000g, 5min	Frozen at -40°C
Nomura, S. 2009b [34]	Japan	Flow cytometry	Ortho Cytoron Absolute analyzer	3µm beads	0.129mM trisodium citrate	4,300g, 5min; 100,000g, 90min	NM
Tramontano, A.F. 2010 [35]	USA	Flow cytometry	FACS Canto	Gate 0.2 - 1.0µm	3.2% trisodium citrate	13,000g, 45min	Stored at -80°C
Curtis, A.M. 2010 [36]	Ireland	Flow cytometry	FACS Canto	1.0µm and 6µm beads, gate < 1µm	Sodium citrate	1,500g, 15min; 13,500g, 5min	Morning after overnight fast, stored at -80°C
Feng, B. 2010 [37]	China	Flow cytometry	FACS Calibur	0.8µm beads, gate < 0.8µm	Citrate anticoagulant	160g, 10min; 1,000g, 6min	Frozen at -80°C
Xiang, H. 2010 [38]	China	Flow cytometry	NM	1µm beads, gate < 1µm	Sodium citrate	160g, 10min; 1,000g, 6min	Morning after overnight fast
Tripodi, A. 2011 [39]	Italy	Flow cytometry	FACS Calibur	7µm beads, gate < 1µm	Trisodium citrate	2,880g, 20min	after overnight fast, stored at -70°C
Tsimerman, G. 2011 [40]	Israel	Flow cytometry	Ortho Cytoron Absolute analyzer	7.0µm beads, gate < 0.75µm	3.2% sodium citrate	1,500g, 10min	Frozen at -80°C
Lanuti, P. 2012 [41]	Italy	Flow cytometry	FACS Calibur	Gate 0.1 - 1µm	Containing EDTA-ACD	NM	NM
Chen, Y. 2012 [42]	China	Flow cytometry	FACS Calibur	3µm beads	NM	160g, 10min; 1,000g, 6min	NM
Jansen, F. 2013 [43]	Germany	Flow cytometry	FACS Calibur	0.7 - 0.9µm beads, gate 0.7 - 0.9µm	Sodium citrate	1,500g, 15min; 13,000g, 2min	Frozen at -80°C
Alkhatatbeh, M.J. 2013 [44]	Australia	Flow cytometry	FACS Canto	2:1:1 0.5µm, 0.9µm and 3µm beads	3.2% Na citrate vacuette	2,100g, 15min; 2,100g, 15min	Frozen at -80°C

Lumsden, N.G. 2013 [45]	Australia	Flow cytometry	FACS Calibur	0.1 - 1 $\mu$ m beads, gate 0.1 - 1 $\mu$ m	Sodium citrate	400g, 10min; 600g, 10min	Frozen at -80°C
Kurtzman, N. 2013 [46]	USA	Flow cytometry	FACS Canto A	3 $\mu$ m beads	Sodium citrate	2,500g, 15min	After overnight fast
Zhang, X. 2014 [47]	UK	Flow cytometry	FACS Calibur with Cell Quest software	1 $\mu$ m beads, gate < 1 $\mu$ m	Sodium citrate	2,000g, 20min	Frozen at -80°C
Berezin, A.E. 2015 [48]	Ukraine	Flow cytometry	NM	0.8mm and 1.0mm beads	Cooled silicone test tubes	20,500rpm, 30min; 20,500rpm, 30min;	Morning

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ACD, acid citrate dextrose; BD, Becton Dickinson; EDTA, ethylenediaminetetraacetic acid; EGTA, ethylene glycol tetraacetic acid; ELISA, enzyme-linked immunosorbent assay; EPICS, electronic programmable individual cell sorter; FACS, fluorescence activating cell sorter; MPs, cell-derived microparticles; NM, not mentioned; XaCT, factor Xa based clotting assay.

**Table S2.** The special detection markers of each microparticle type in the included studies.

Study ID	Special markers of each MP				
	PMPs	EMPs	LMPs	MMPs	TMPs
Nomura, S. 1995 [1]	CD42b+, CD62P+				
Watala, C. 1998 [2]	CD62+, CD42+				
Omoto, S. 1999 [3]	CD42a+				
Nomura, S. 2000 [4]	CD42a+				
Sabatier, F. 2002 [5]	CD41+	CD51+	CD45+	CD14+	Annexin V+
Diamant, M. 2002 [6]	CD61+/Annexin V+	CD34+/Annexin V+		CD14+/Annexin V+	Annexin V+
Nomura, S. 2002 [7]	CD42a+			CD14+	
Nomura, S. 2003 [8]	CD42a+			CD14+	
Shouzu, A. 2004 [9]	CD42a+			CD14+	
Morel, O. 2004 [10]	CD42b+	CD31+	CD11a+		
Nomura, S. 2004 [11]				CD14+	
Nomura, S. 2004a [12]	CD42a+	CD51+/Annexin V+			
Nomura, S. 2004b [13]	CD42a+			CD14+	
Nomura, S. 2004c [14]	CD42a+	CD51+/Annexin V+			
Sommeijer, D.W. 2005 [15]	CD61+	CD62E+		CD14+	
Koga, H. 2005 [16]		CD144+/CD42b-			
Tan, K.T. 2005 [17]	CD61+/CD42b+				
Nomura, S. 2005 [18]	CD42a+				
Nomura, S. 2005a [19]	CD42a+			CD14+/Annexin V+	
Nomura, S. 2005b [20]		CD51+/annexin V+		CD14+/Annexin V+	

Nomura, S. 2006 [21]				CD14 <sup>+</sup> /Annexin V <sup>+</sup>
Koga, H. 2006 [22]	CD42b <sup>+</sup>			
Esposito, K. 2007 [23]	CD31 <sup>+</sup> /CD42b <sup>+</sup>	CD31 <sup>+</sup> /CD42b <sup>-</sup>		
Nomura, S. 2007 [24]	CD42a <sup>+</sup>	CD51 <sup>+</sup> /Annexin V <sup>+</sup>		CD14 <sup>+</sup> /Annexin V <sup>+</sup>
Tushuizen, M.E. 2007 [25]		CD144 <sup>+</sup>		
Inami, N. 2008 [26]	CD9 <sup>+</sup> , CD42a <sup>+</sup> , CD42b <sup>+</sup> , CD41 <sup>+</sup>			
Raturi, A. 2008 [27]	CD61 <sup>+</sup> /Annexin V <sup>+</sup>			
Esposito, K. 2008 [28]		CD62E <sup>+</sup> , CD31 <sup>+</sup> /CD42 <sup>-</sup>		
Razmara, M. 2008 [29]	CD42a <sup>+</sup> , CD42a <sup>+</sup> /Annexin V <sup>+</sup>			
Shimazu, T. 2009 [30]	CD42a <sup>+</sup> /CD42b <sup>+</sup>			
Van Dreden, P. 2009 [31]	CD61 <sup>+</sup> /Annexin V <sup>+</sup>			
Nomura, S. 2009 [32]	CD42a <sup>+</sup>	CD51 <sup>+</sup> /Annexin V <sup>+</sup>		CD14 <sup>+</sup> /Annexin V <sup>+</sup>
Nomura, S. 2009a [33]	CD42a <sup>+</sup> /CD42b <sup>+</sup>			
Nomura, S. 2009b [34]		CD51 <sup>+</sup> /Annexin V <sup>+</sup>		
Tramontano, A.F. 2010 [35]		CD31 <sup>+</sup> /CD41a <sup>-</sup> , CD105 <sup>+</sup> , CD106 <sup>+</sup> , CD62E <sup>+</sup> , CD144 <sup>+</sup>		
Curtis, A.M. 2010 [36]	CD41 <sup>+</sup> /Annexin V <sup>+</sup>	CD144 <sup>+</sup> /Annexin V <sup>+</sup>		CD14 <sup>+</sup> /Annexin V <sup>+</sup>
Feng, B. 2010 [37]	CD31 <sup>+</sup> /CD42 <sup>+</sup>	CD31 <sup>+</sup> /CD42 <sup>-</sup> , CD51 <sup>+</sup> , CD62 <sup>+</sup>	CD45 <sup>+</sup>	
Xiang, H. 2010 [38]		CD31 <sup>+</sup> /CD42 <sup>-</sup>		
Tripodi, A. 2011 [39]	CD41 <sup>+</sup> /Annexin V <sup>+</sup>			Annexin V <sup>+</sup>
Tsimerman, G. 2011 [40]	CD41 <sup>+</sup> , CD62P <sup>+</sup>	CD144 <sup>+</sup>		
Lanuti, P. 2012 [41]		CD144 <sup>+</sup> /CD146 <sup>+</sup> , CD146 <sup>+</sup> /CD34 <sup>+</sup> /CD45, CD45 <sup>-</sup> /CD146 <sup>+</sup> /CD34 <sup>+</sup> /CD117 <sup>+</sup> , CD45 <sup>-</sup> /CD146 <sup>+</sup> /CD34 <sup>+</sup> /CD117 <sup>-</sup>		
Chen, Y. 2012 [42]	CD31 <sup>+</sup> /CD42 <sup>+</sup>	CD31 <sup>+</sup> /CD42 <sup>-</sup>	CD45 <sup>+</sup>	

Jansen, F. 2013 [43]		CD31 <sup>+</sup> /Annexin V <sup>+</sup>		
Alkhatatbeh, M.J. 2013 [44]	CD41 <sup>+</sup> , CD41 <sup>+</sup> /Annexin V <sup>+</sup>	CD105 <sup>+</sup>		CD14 <sup>+</sup>
Lumsden, N.G. 2013 [45]	CD41 <sup>+</sup>	CD31 <sup>+</sup> /CD41 <sup>-</sup>		
Kurtzman, N. 2013 [46]	CD41a <sup>+</sup> , CD41a <sup>+</sup> /C31 <sup>+</sup> /Annexin V <sup>+</sup>	CD105 <sup>+</sup> , CD31 <sup>+</sup>	CD3 <sup>+</sup>	
Zhang, X. 2014 [47]	CD61 <sup>+</sup>		CD45 <sup>+</sup>	CD14 <sup>+</sup>
Berezin, A.E. 2015 [48]		CD31 <sup>+</sup> /Annexin V <sup>+</sup> , CD144 <sup>+</sup> /Annexin V <sup>+</sup> , CD144 <sup>+</sup> /CD31 <sup>+</sup> /Annexin V <sup>+</sup> , CD62 <sup>+</sup> , CD144 <sup>+</sup> /CD31 <sup>+</sup>		

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CD, clusters of differentiation; EMPs, endothelium-derived microparticles; LMPs, leukocyte-derived microparticles; MMPs, monocyte-derived microparticles; MP, cell-derived microparticle; PMPs, platelet-derived microparticles; TMPs, the total microparticles.



**Table S3.** The quality assessment of included studies.

Study ID	Country	NOS								Total
		Selection				Comparability	Exposure			
		Definition of Cases	Representativeness of the cases	Selection of Controls	Definition of Controls	Comparability	Ascertainment	Same method	Non Response rate	
Nomura, S. 1995 [1]	Japan				★			★		2
Watala, C. 1998 [2]	Poland				★			★		2
Omoto, S. 1999 [3]	Japan				★			★		2
Nomura, S. 2000 [4]	Japan				★			★		2
Sabatier, F. 2002 [5]	France				★	★		★		3
Diamant, M. 2002 [6]	Netherlands				★	★		★		3
Nomura, S. 2002 [7]	Japan	★	★	★	★			★		5
Nomura, S. 2003 [8]	Japan	★			★			★		3
Shouzu, A. 2004 [9]	Japan				★			★		2
Morel, O. 2004 [10]	France	★	★		★			★		4
Nomura, S. 2004 [11]	Japan	★	★	★	★			★		5
Nomura, S. 2004a [12]	Japan	★	★	★	★			★		5
Nomura, S. 2004b [13]	Japan	★			★			★		3
Nomura, S. 2004c [14]	Japan				★			★		2
Sommeijer, D.W. 2005 [15]	Holland		★	★	★			★		4
Koga, H. 2005 [16]	Japan		★		★	★★		★		5
Tan, K.T. 2005 [17]	UK				★	★★		★		4
Nomura, S. 2005 [18]	Japan	★	★	★	★			★		5

Nomura, S. 2005a [19]	Japan	★	★	★	★			★	5
Nomura, S. 2005b [20]	Japan	★	★	★	★			★	5
Nomura, S. 2006 [21]	Japan	★	★	★				★	4
Koga, H. 2006 [22]	Japan	★	★		★	★★		★	6
Esposito, K. 2007 [23]	Italy		★	★		★★		★	5
Nomura, S. 2007 [24]	Japan	★	★	★	★			★	5
Tushuizen, M.E. 2007 [25]	Netherlands				★	★★	★	★	5
Inami, N. 2008 [26]	Japan	★	★	★				★	4
Raturi, A. 2008 [27]	USA	★			★			★	3
Esposito, K. 2008 [28]	Italy		★	★	★	★★	★	★	7
Razmara, M. 2008 [29]	Sweden				★	★★		★	4
Shimazu, T. 2009 [30]	Japan		★	★				★	3
Van Dreden, P. 2009 [31]	Australia				★			★	2
Nomura, S. 2009 [32]	Japan	★	★		★	★★		★	6
Nomura, S. 2009a [33]	Japan	★	★	★	★			★	5
Nomura, S. 2009b [34]	Japan	★	★					★	3
Tramontano, A.F. 2010 [35]	USA	★				★★		★	4
Curtis, A.M. 2010 [36]	Ireland				★	★★		★	4
Feng, B. 2010 [37]	China	★	★		★	★★		★	6
Xiang, H. 2010 [38]	China	★	★		★			★	4
Tripodi, A. 2011 [39]	Italy	★		★	★	★★		★	6
Tsimerman, G. 2011 [40]	Israel				★			★	2
Lanuti, P. 2012 [41]	Italy	★	★		★			★	4
Chen, Y. 2012 [42]	China	★	★		★	★★		★	6

Jansen, F. 2013 [43]	Germany	★	★	★	★			★	5
Alkhatatbeh, M.J. 2013 [44]	Australia		★	★	★	★★		★	6
Lumsden, N.G. 2013 [45]	Australia		★			★★	★	★	5
Kurtzman, N. 2013 [46]	USA				★	★★		★	4
Zhang, X. 2014 [47]	UK		★	★	★			★	4
Berezin, A.E. 2015 [48]	Ukraine	★	★	★	★	★★		★	7

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NOS, Newcastle–Ottawa Quality assessment scale.

**Table S4.** Results of subgroup analysis of each microparticle type.

Outcomes	Subgroups	Number of studies	SMD	95%CI	P value	Weight	I <sup>2</sup>
TMPs	unspecified T2DM versus healthy control	2	0.72	0.01, 1.43	0.05	73.0%	85%
	T2DM with co-morbidities versus healthy control	1	0.40	-0.24, 1.04	0.22	27.0%	—
PMPs	unspecified T2DM versus healthy control	13	1.00	0.63, 1.37	< 0.00001	48.4%	85%
	T2DM with co-morbidities versus healthy control	5	1.83	0.46, 3.19	0.009	18.4%	97%
	T2DM with co-morbidities versus non-diabetic patients with co-morbidities	9	1.10	0.70, 1.50	< 0.00001	33.2%	82%
MMPs	unspecified T2DM versus healthy control	3	0.76	0.06, 1.46	0.03	24.7%	75%
	T2DM with co-morbidities versus healthy control	1	0.66	0.04, 1.28	0.04	8.0%	—
	T2DM with co-morbidities versus non-diabetic patients with co-morbidities	8	1.01	0.68, 1.33	< 0.00001	67.4%	66%
LMPs	unspecified T2DM versus healthy control	2	0.26	-0.66, 1.19	0.58	47.9%	78%
	T2DM with co-morbidities versus healthy control	1	0.89	0.47, 1.31	< 0.0001	27.9%	—
	T2DM with co-morbidities versus non-diabetic patients with co-morbidities	1	-0.09	-0.66, 0.47	0.75	24.3%	—
EMPs	unspecified T2DM versus healthy control	7	0.64	0.21, 1.06	0.003	38.0%	84%
	T2DM with co-morbidities versus healthy control	4	0.61	-0.35, 1.56	0.21	19.2%	90%
	T2DM with co-morbidities versus non-diabetic patients with co-morbidities	8	0.85	0.59, 1.10	< 0.00001	42.7%	62%

The subgroups are as following: unspecified T2DM versus healthy control, T2DM with co-morbidities versus healthy control, T2DM with co-morbidities versus non-diabetic patients with co-morbidities. CI, confidence interval; EMPs, endothelium-derived microparticles; LMPs, leukocyte-derived microparticles; MMPs, monocyte-derived microparticles; PMPs, platelet-derived microparticles; TMPs, the total microparticles; T2DM, type 2 diabetes mellitus; SMD, standard mean difference.

**Table S5.** Results of univariable meta-regressions of each microparticle type.

Outcomes	Variables	Number of observations	Coefficient	95%CI	tau <sup>2</sup>	P value	I <sup>2</sup> _res
TMPs	Publication year	3	0.05	-0.74, 0.84	0.16	0.58	68.95%
	Sample size	3	0.01	-0.10, 0.11	0.14	0.54	76.80%
	Female proportion	3	-2.65	-57.17, 51.87	0.19	0.65	74.13%
PMPs	Publication year	27	0.02	-0.06, 0.11	0.74	0.58	90.41%
	Sample size	27	0.00	-0.00, 0.01	0.68	0.15	89.22%
	Female proportion	24	1.83	-0.81, 4.47	0.76	0.16	90.98%
	Mean age	24	0.05	-0.02, 0.12	0.75	0.17	90.68%
	Mean BMI	22	-0.10	-0.29, 0.08	0.82	0.25	91.28%
	Mean HbA1c	17	0.26	-0.36, 0.88	0.99	0.39	93.00%
MMPs	Publication year	12	-0.06	-0.19, 0.07	0.20	0.35	65.45%
	Sample size	12	-0.00	-0.00, 0.00	0.24	0.76	66.99%
	Female proportion	11	2.01	-1.03, 5.05	0.18	0.17	64.85%
	Mean age	11	0.02	-0.09, 0.13	0.29	0.67	70.38%
	Mean BMI	11	-0.16	-0.31, -0.01	0.09	0.04	55.93%
	Mean HbA1c	9	0.23	-0.26, 0.72	0.09	0.31	57.83%
LMPs	Publication year	4	-0.01	-0.29, 0.28	0.41	0.93	83.83%
	Sample size	4	0.02	-0.00, 0.04	0.00	0.08	0.00%
	Female proportion	4	2.31	-2.15, 6.77	0.06	0.16	47.26%
	Mean age	4	-0.02	-0.39, 0.34	0.40	0.80	83.45%
	Mean BMI	4	0.07	-0.99, 1.14	0.37	0.79	81.14%
EMPs	Publication year	19	-0.05	-0.13, 0.03	0.24	0.21	80.37%
	Sample size	19	0.00	-0.00, 0.00	0.22	0.28	73.21%
	Female proportion	18	1.42	-0.03, 2.88	0.22	0.06	80.90%
	Mean age	18	0.05	-0.01, 0.10	0.20	0.09	75.44%
	Mean BMI	16	-0.09	-0.19, 0.01	0.24	0.07	80.71%
	Mean HbA1c	11	0.16	0.28, 0.60	0.12	0.44	67.28%

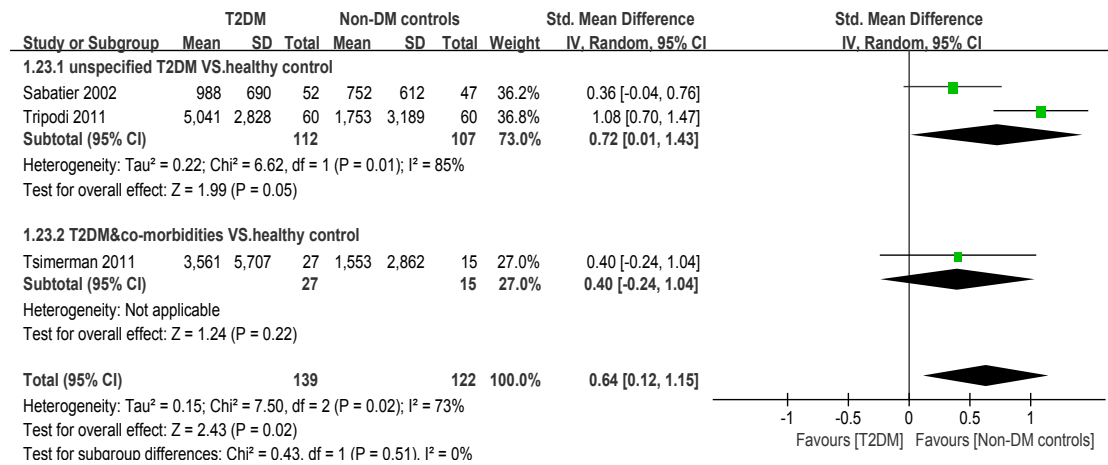
The covariates are as following: publication year, sample size, female proportion, the mean age, mean BMI and mean HbA1c of T2DM patients. BMI, body mass index; CI, confidence interval; EMPs, endothelium-derived microparticles; HbA1c, glycosylated hemoglobin A1c; LMPs, leukocyte-derived microparticles; MMPs, monocyte-derived microparticles; PMPs, platelet-derived microparticles; TMPs, the total microparticles.

**Figure S1.** Forest plots of subgroup analysis of each microparticle type.

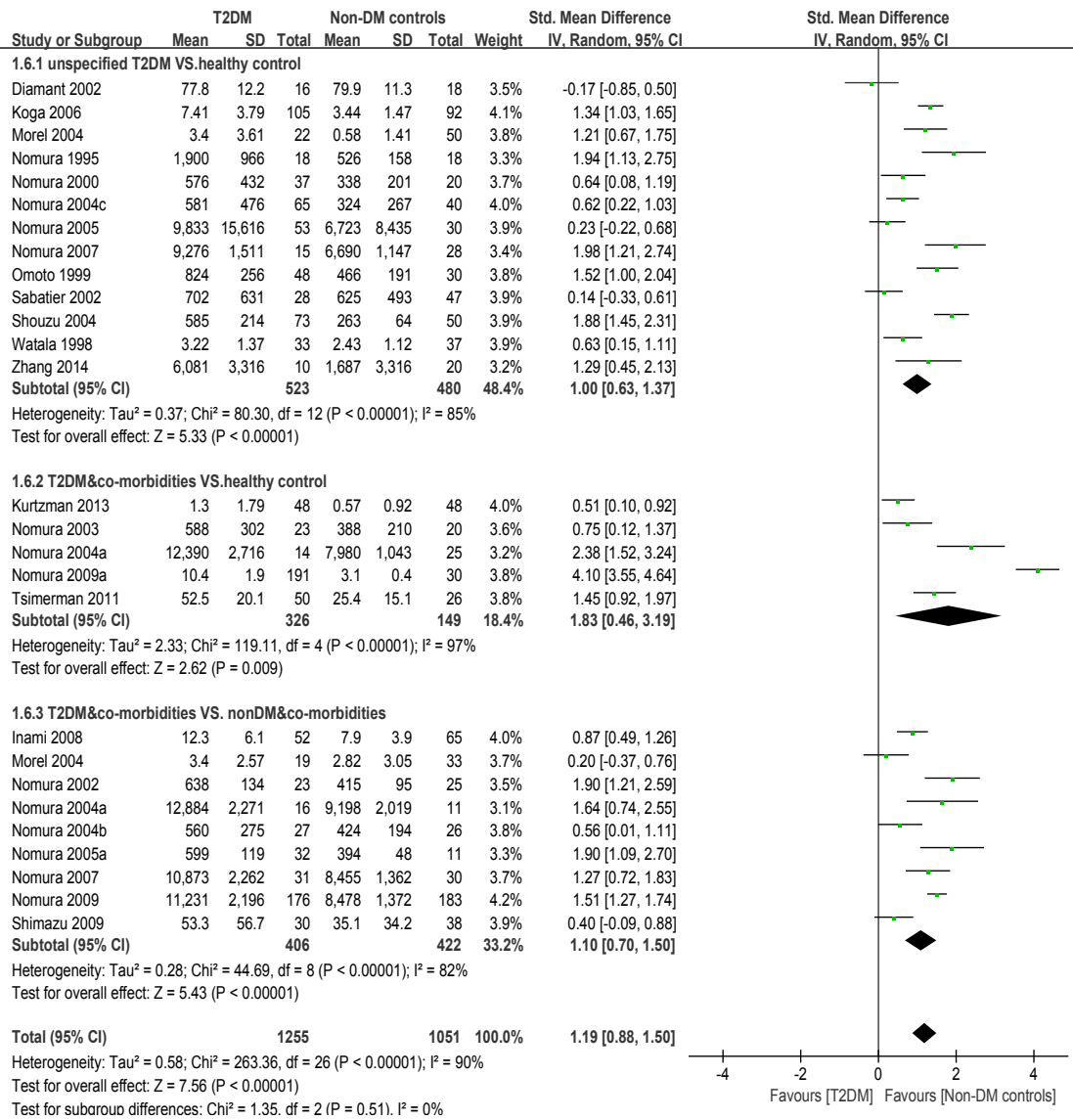
(A. Forest plot of subgroup analysis of TMPs; B. Forest plot of subgroup analysis of PMPs; C. Forest plot of subgroup analysis of MMPs; D. Forest plot of subgroup analysis of LMPs; E. Forest plot of subgroup analysis of EMPs)

The subgroups are as following: unspecified T2DM versus healthy control, T2DM with co-morbidities versus healthy control, T2DM with co-morbidities versus non-diabetic patients with co-morbidities. CI, confidence interval; EMPs, endothelium-derived microparticles; IV, inverse variance method; LMPs, leukocyte-derived microparticles; MMPs, monocyte-derived microparticles; Non-DM controls, non-diabetic controls; PMPs, platelet-derived microparticles; SD, standard deviation; Std. mean difference, standardized mean difference; TMPs, the total microparticles; T2DM, type 2 diabetes mellitus.

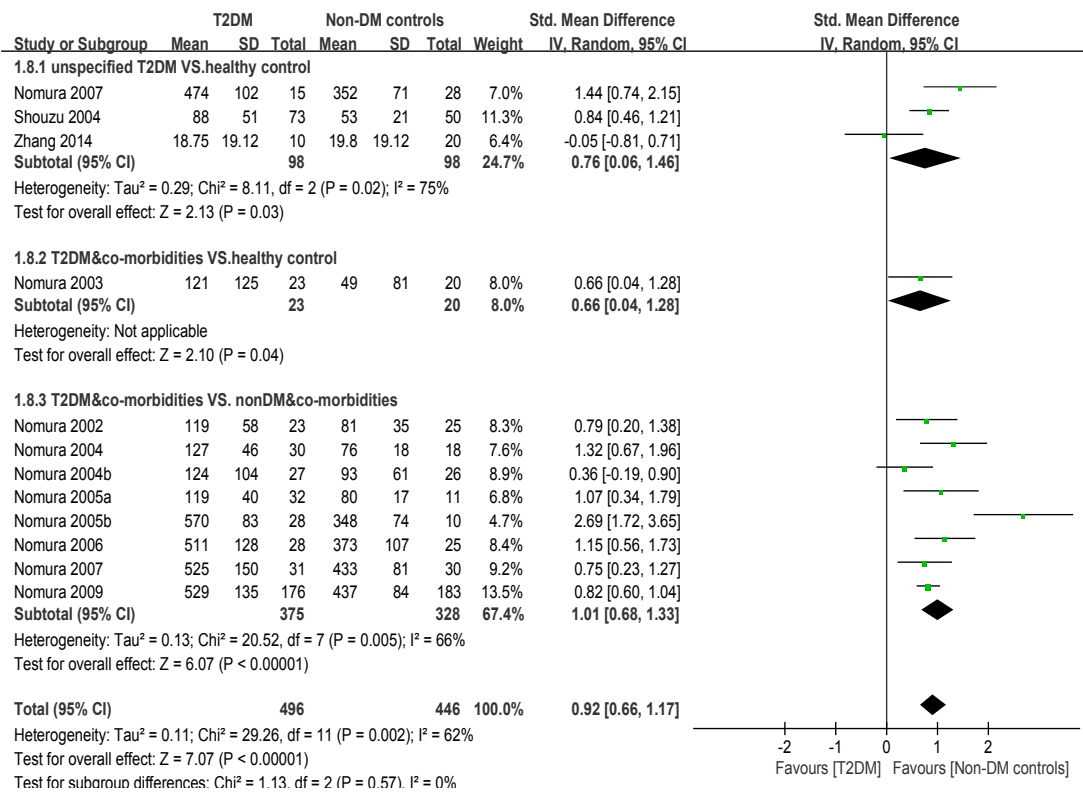
**Figure S1A.** Forest plot of subgroup analysis of TMPs.



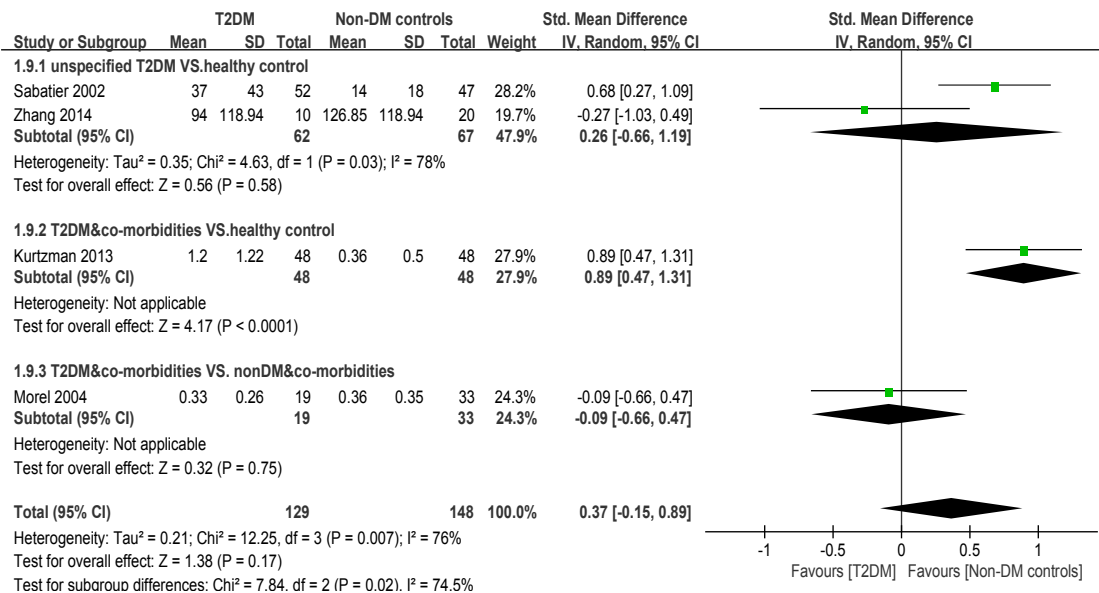
**Figure S1B.** Forest plot of subgroup analysis of PMPs.



**Figure S1C.** Forest plot of subgroup analysis of MMPs.

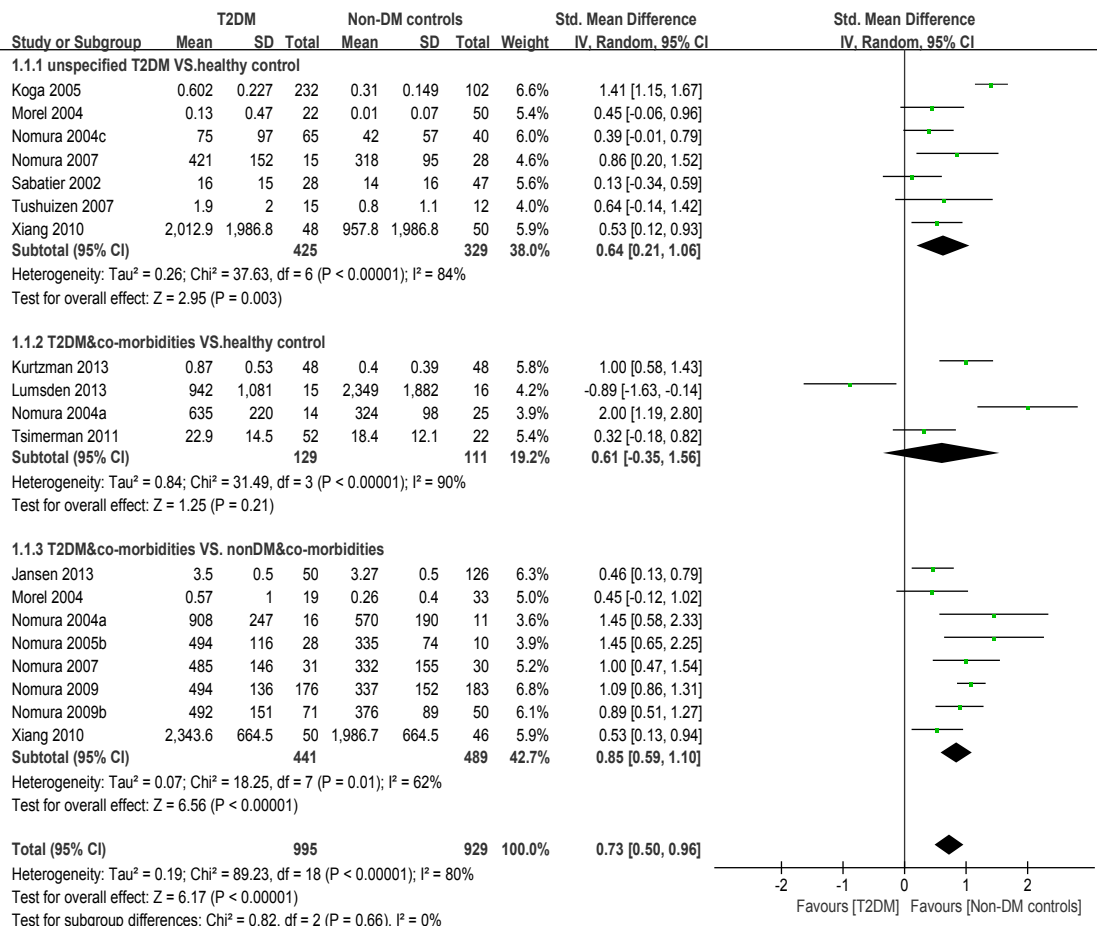


**Figure S1D.** Forest plot of subgroup analysis of LMPs.





**Figure S1E.** Forest plot of subgroup analysis of EMPs.

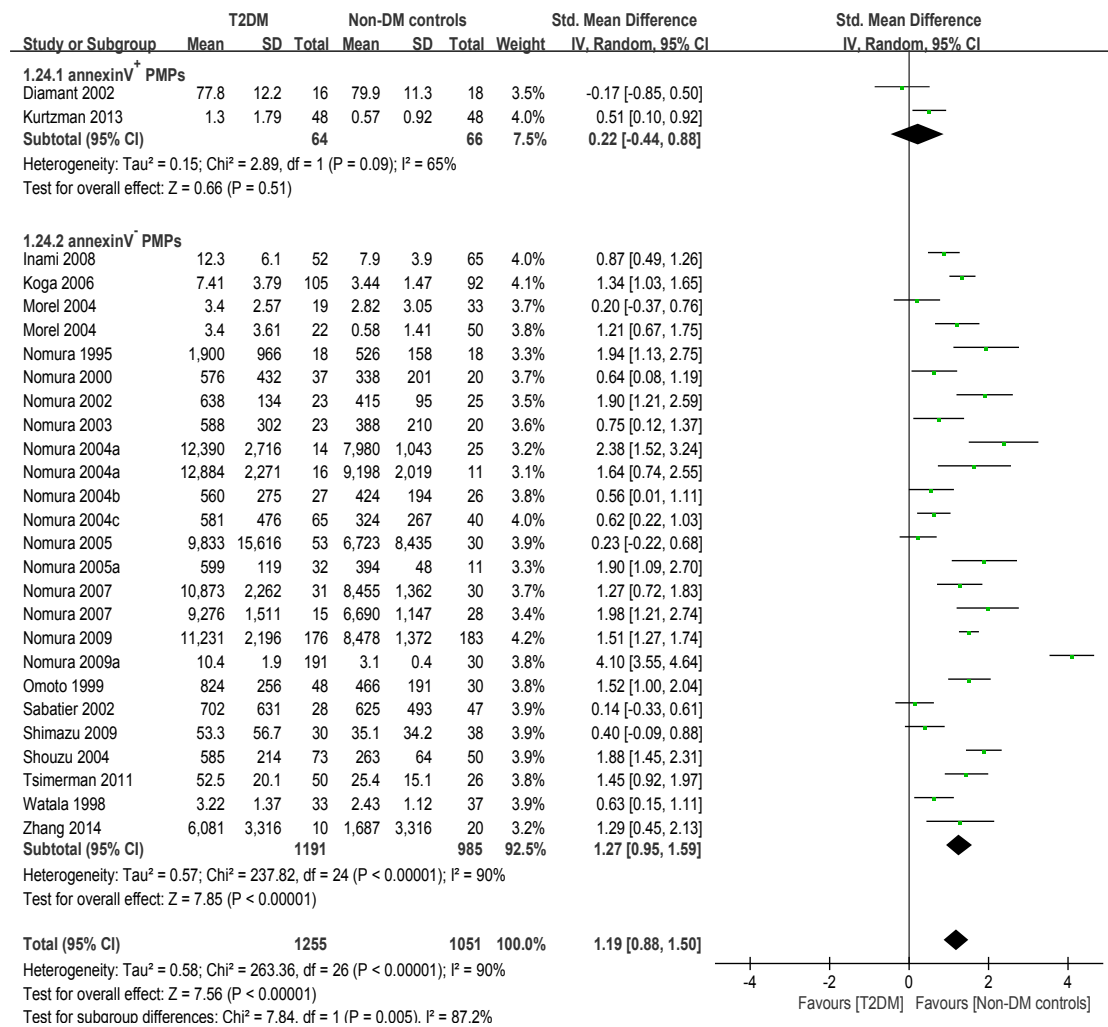


**Figure S2.** Forest plots of subgroup analyses based on annexin V positive or negative microparticle.

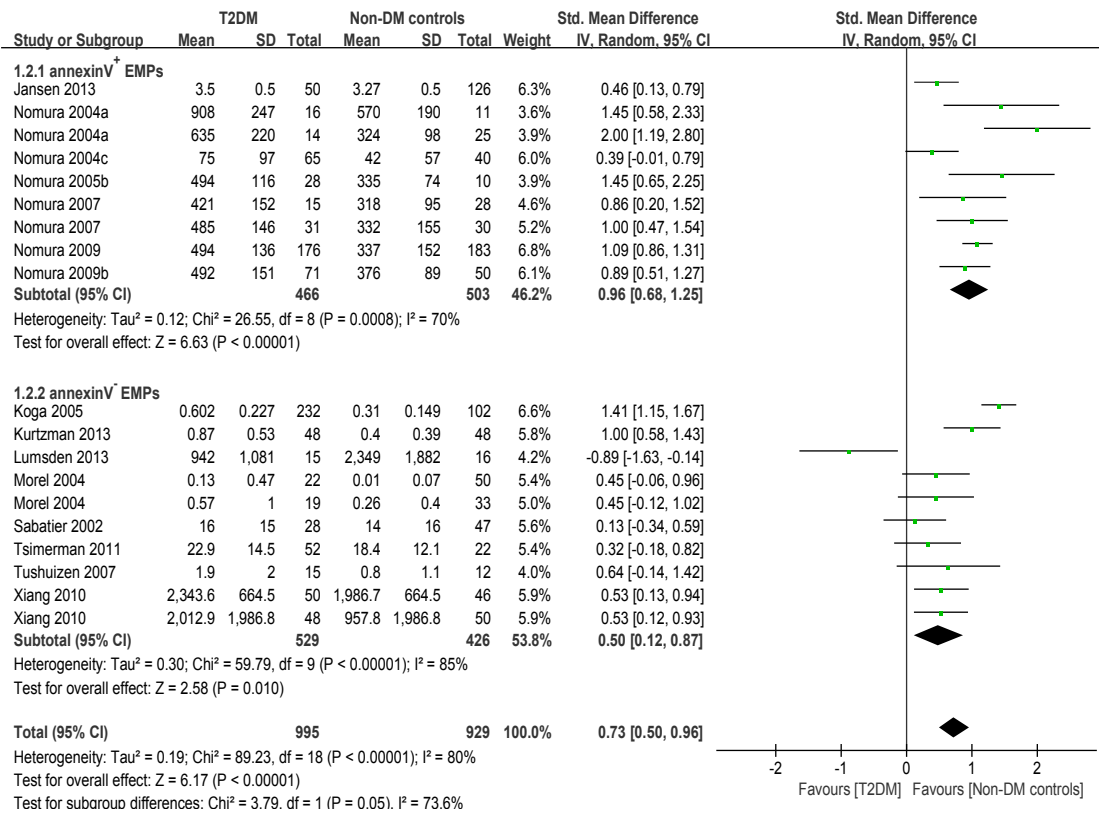
(A. Forest plot of subgroup analysis of PMPs; B. Forest plot of subgroup analysis of EMPs)

CI, confidence interval; EMPs, endothelium-derived microparticles; IV, inverse variance method; Non-DM controls, non-diabetic controls; PMPs, platelet-derived microparticles; SD, standard deviation; Std. mean difference, standardized mean difference; T2DM, type 2 diabetes mellitus.

**Figure S2A.** Forest plot of subgroup analysis of PMPs.



**Figure S2B.** Forest plot of subgroup analysis of EMPs.



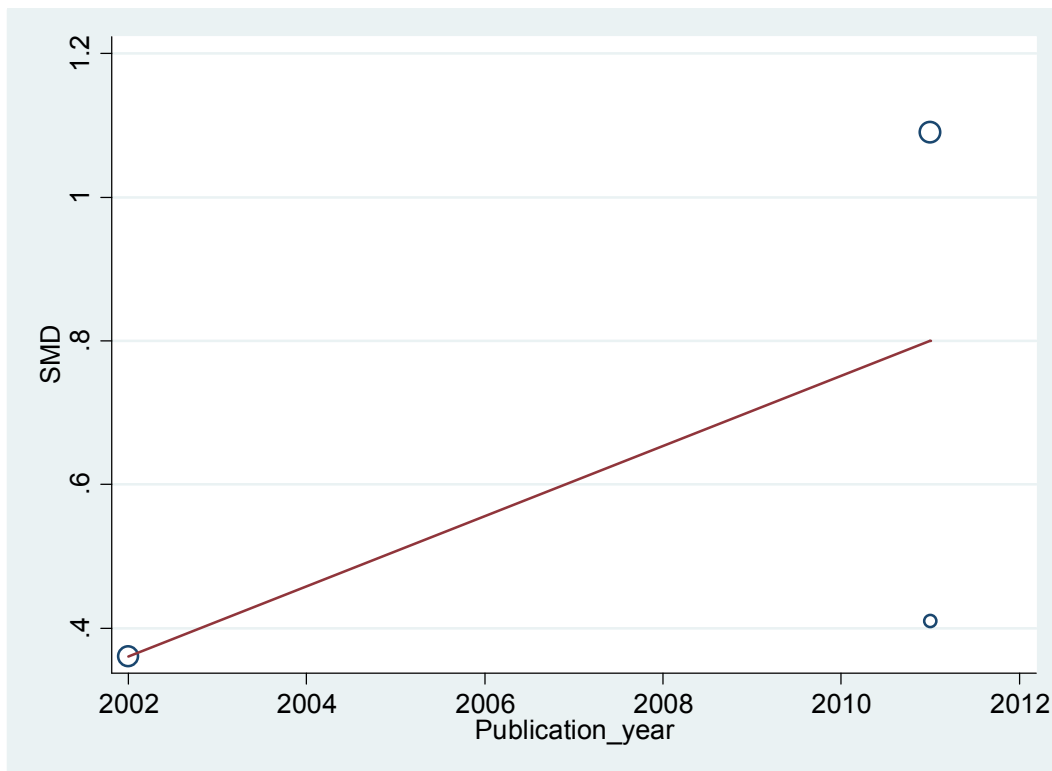
**Figure S3.** Bubble plots of univariable meta-regressions of each microparticle type.

(A. Bubble plots of univariable meta-regressions of TMPs; B. Bubble plots of univariable meta-regressions of PMPs; C. Bubble plots of univariable meta-regressions of MMPs; D. Bubble plots of univariable meta-regressions of LMPs; E. Bubble plots of univariable meta-regressions of EMPs)

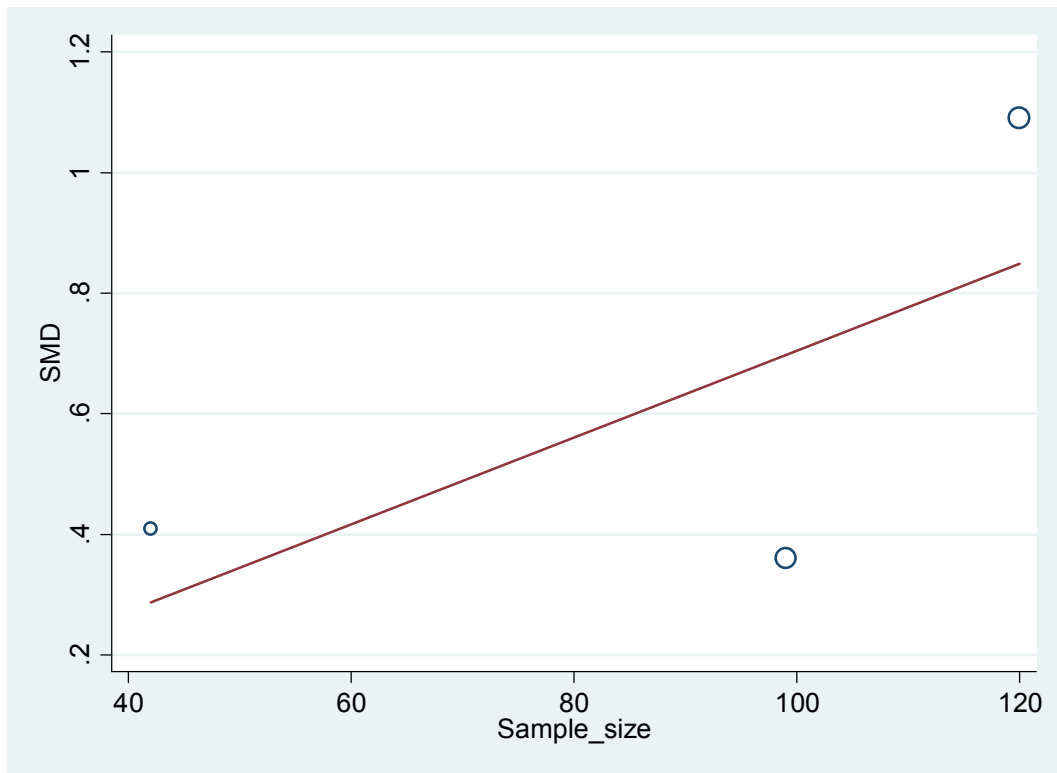
The covariates are as following: publication year, sample size, female proportion, the mean age, mean BMI and mean HbA1c of T2DM patients. BMI, body mass index; EMPs, endothelium-derived microparticles; HbA1c, glycosylated hemoglobin A1c; LMPs, leukocyte-derived microparticles; MMPs, monocyte-derived microparticles; PMPs, platelet-derived microparticles; SMD, standard mean difference; TMPs, the total microparticles.

**Figure S3A.** Bubble plots of univariable meta-regressions of TMPs.

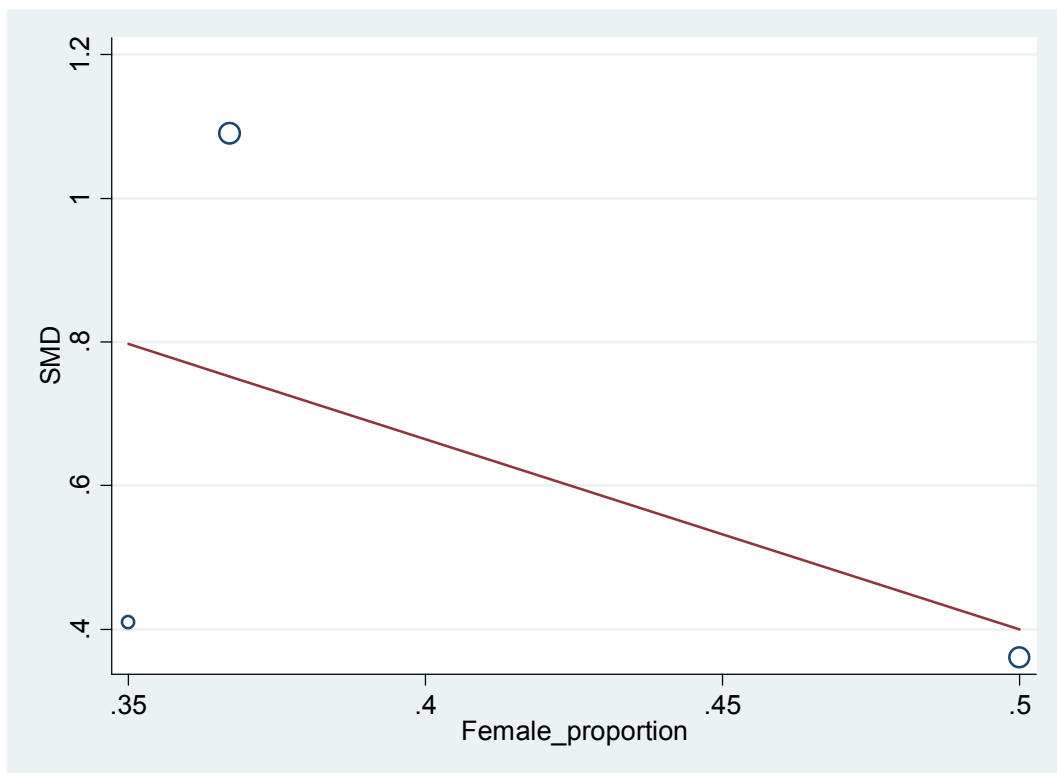
**Figure S3A**①. Publication year



**Figure S3A②.** Sample size

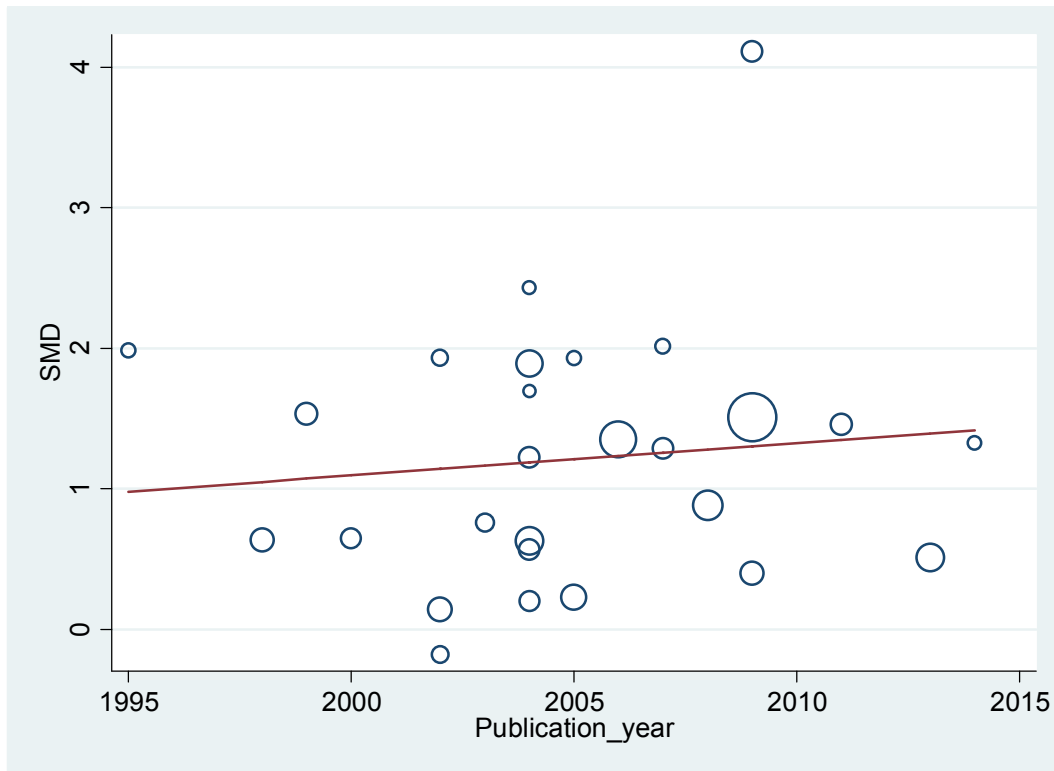


**Figure S3A③.** Female proportion (Female%)

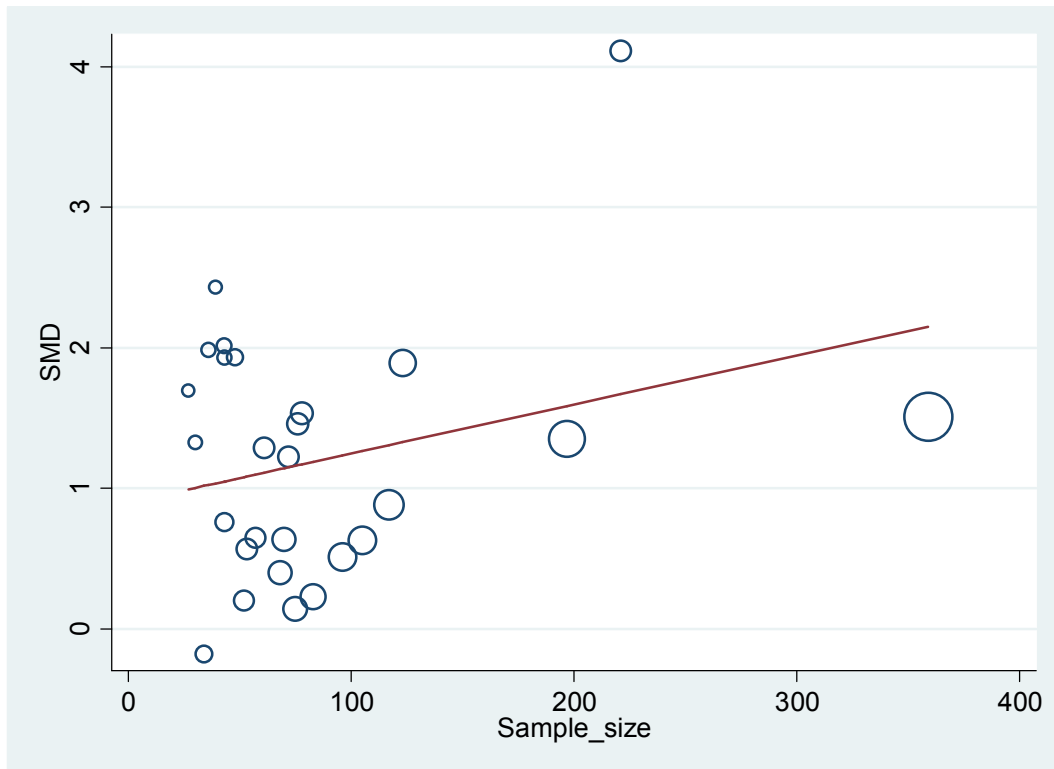


**Figure S3B.** Bubble plots of univariable meta-regressions of PMPs.

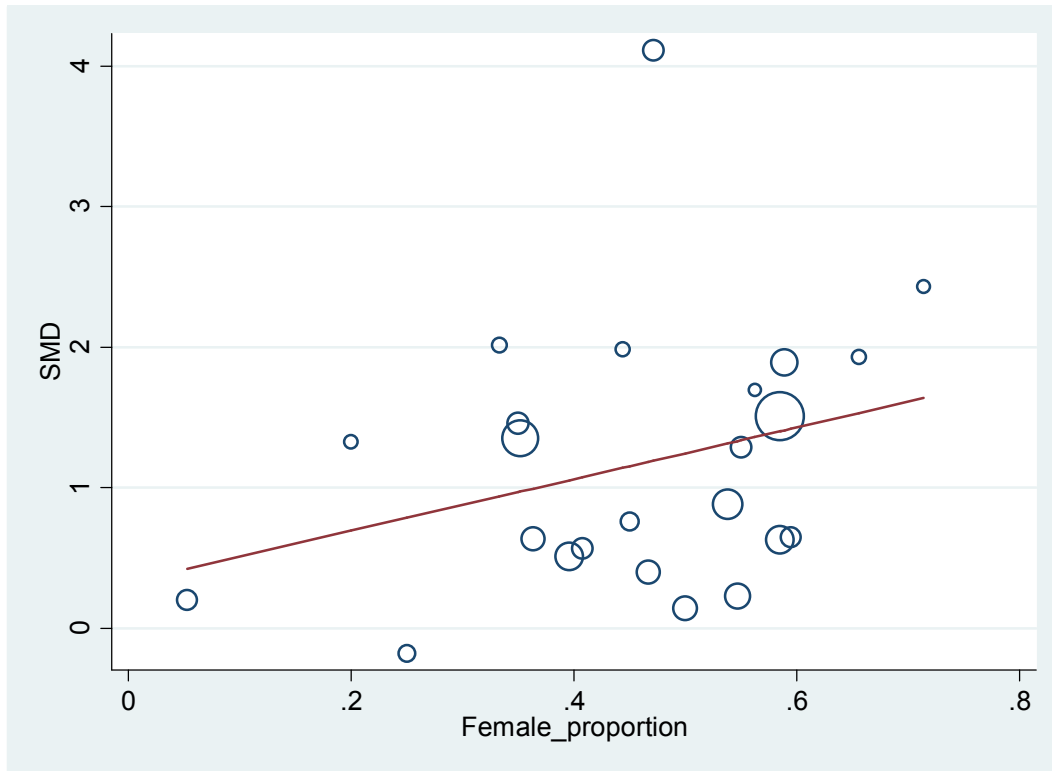
**Figure S3B①.** Publication year



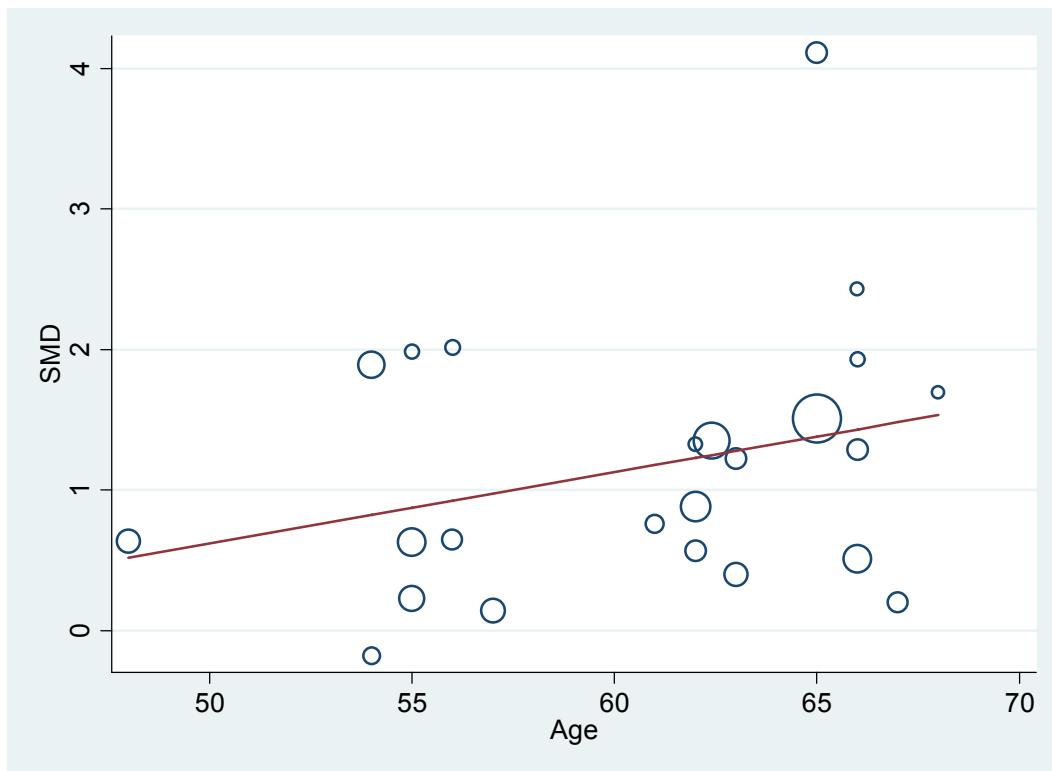
**Figure S3B②.** Sample size



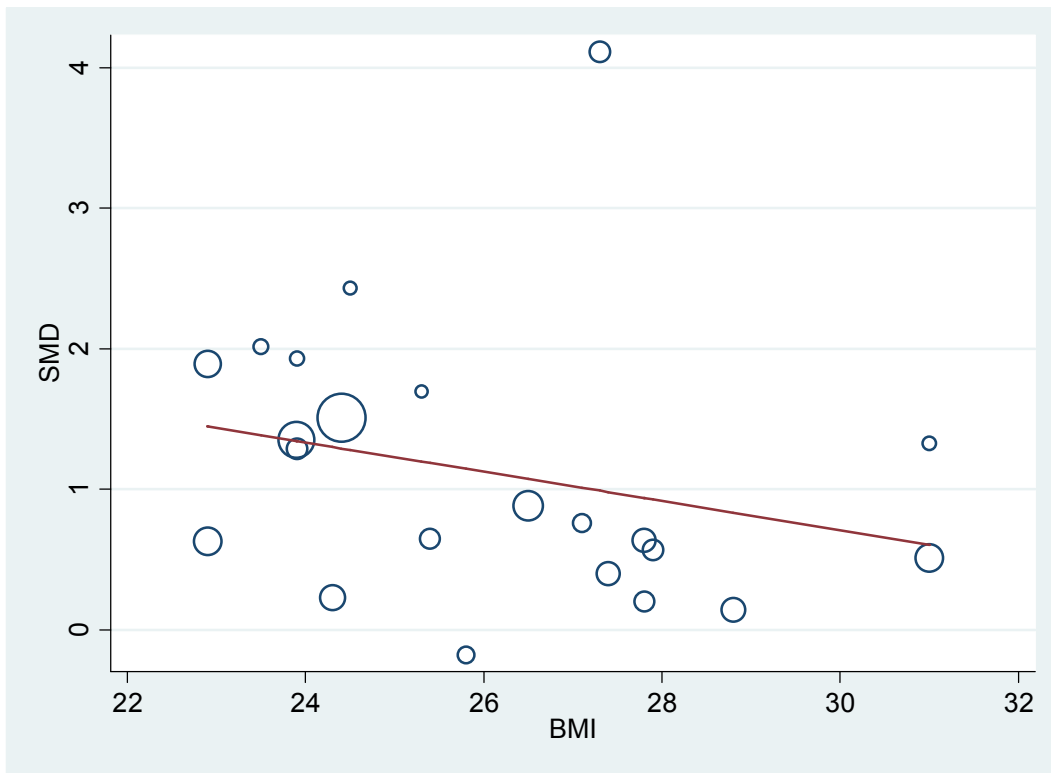
**Figure S3B(3).** Female proportion (Female%)



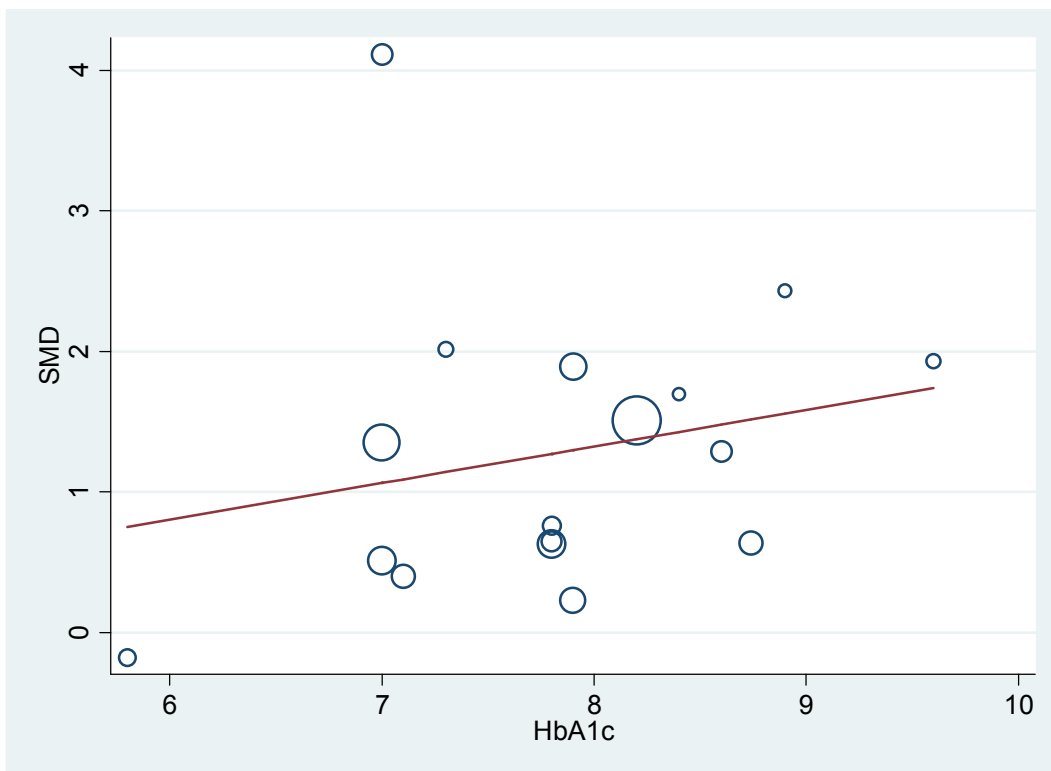
**Figure S3B(4).** Mean age(Years)



**Figure S3B⑤.** Mean BMI(kg/m<sup>2</sup>)



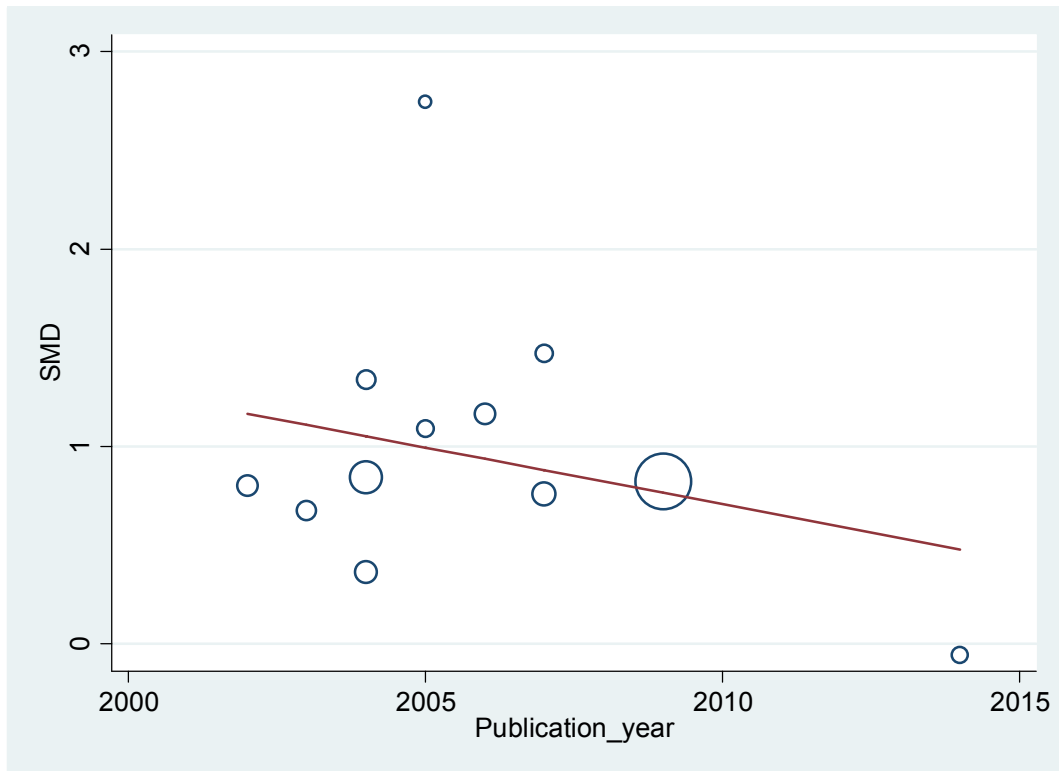
**Figure S3B⑥.** Mean HbA1c(%)



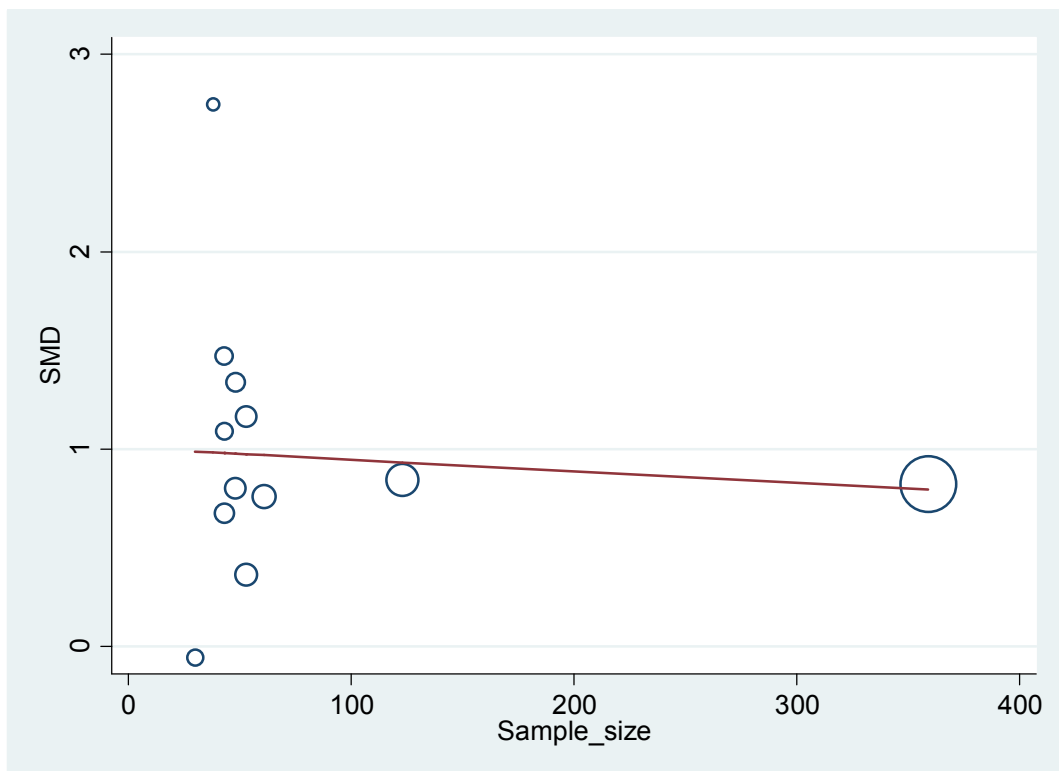


**Figure S3C.** Bubble plots of univariable meta-regressions of MMPs.

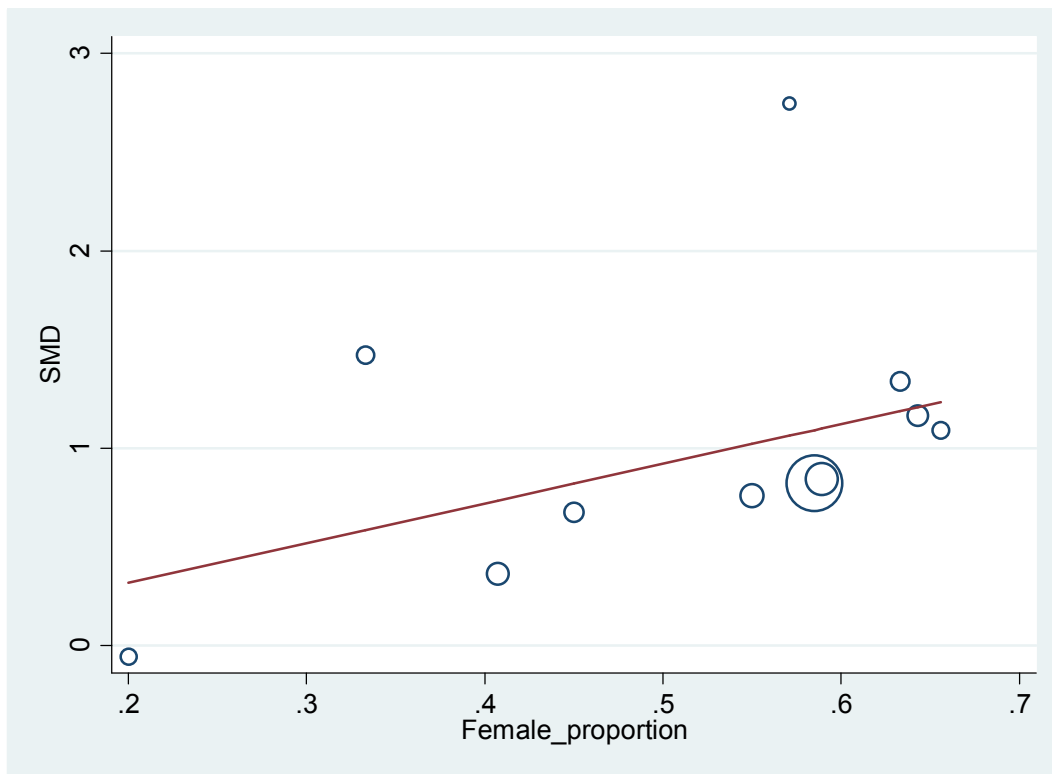
**Figure S3C①.** Publication year



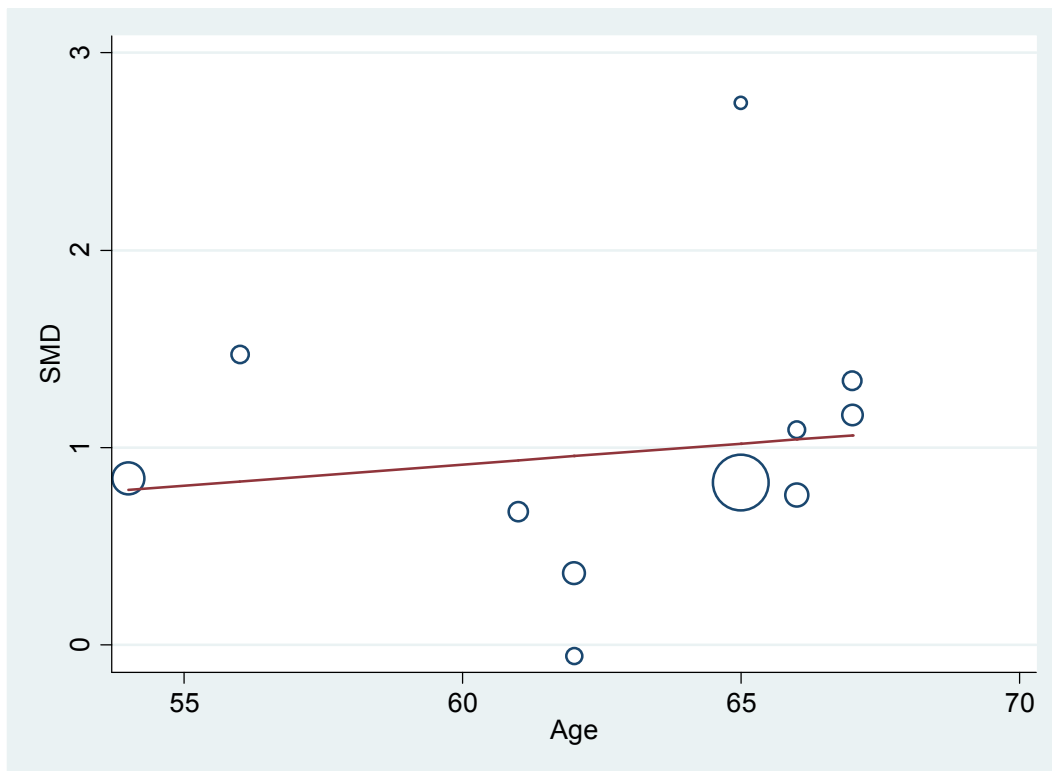
**Figure S3C②.** Sample size



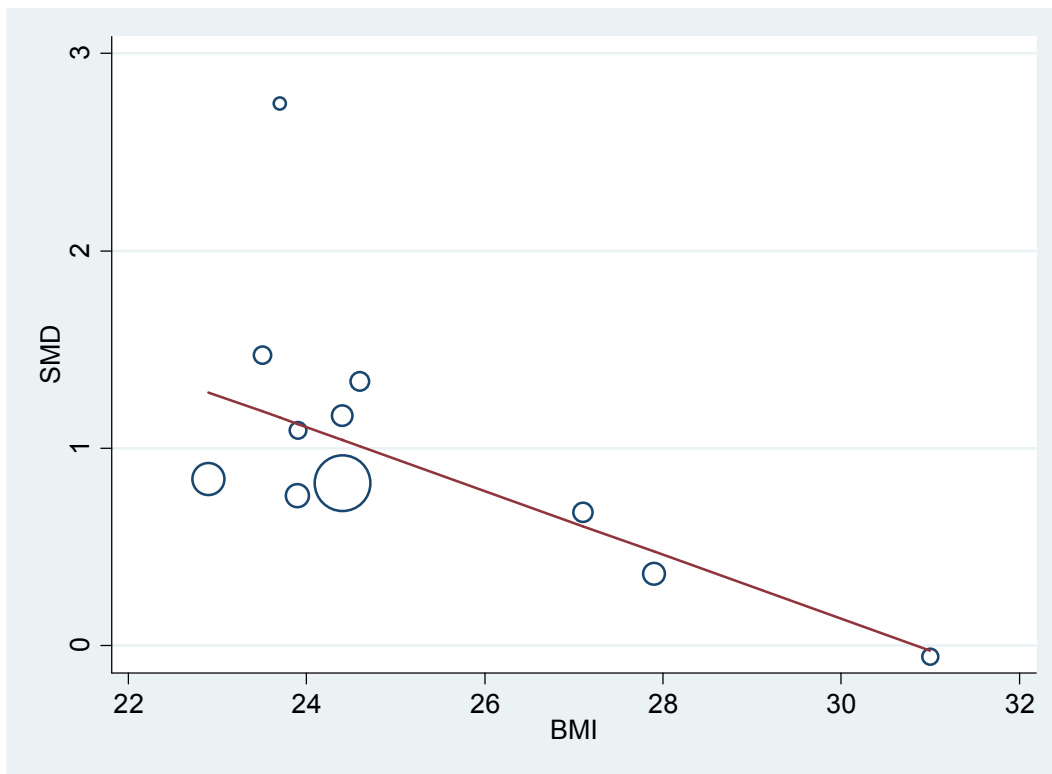
**Figure S3C③.** Female proportion (Female%)



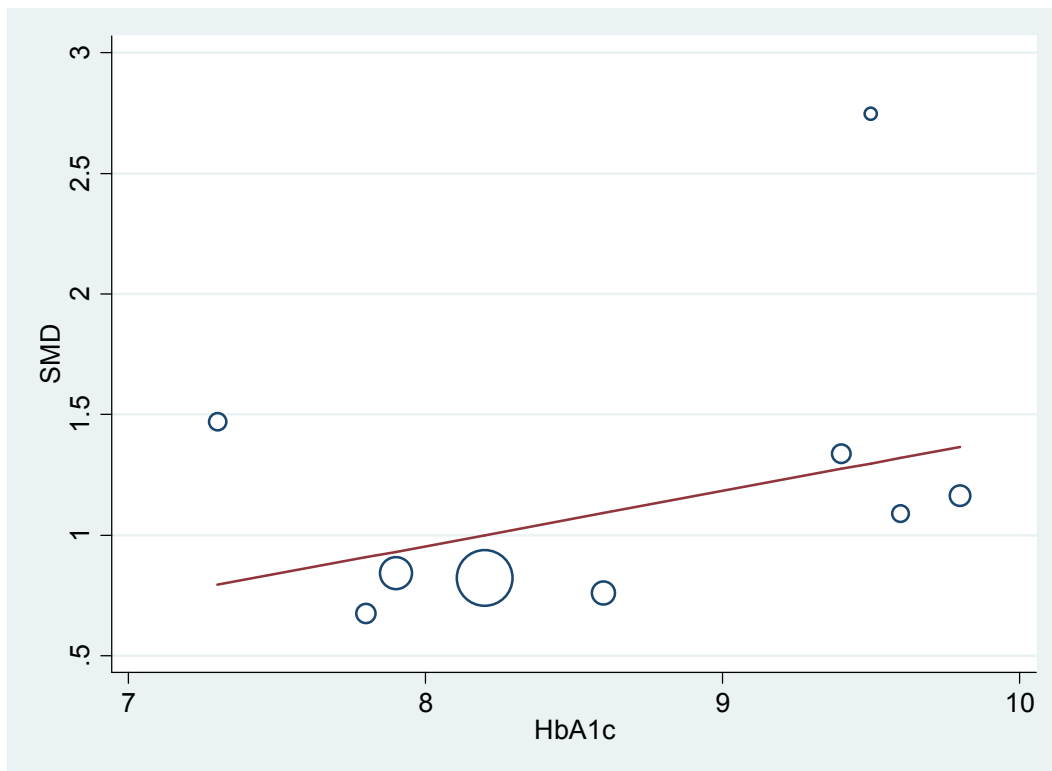
**Figure S3C④.** Mean age(Years)



**Figure S3C⑤.** Mean BMI(kg/m<sup>2</sup>)

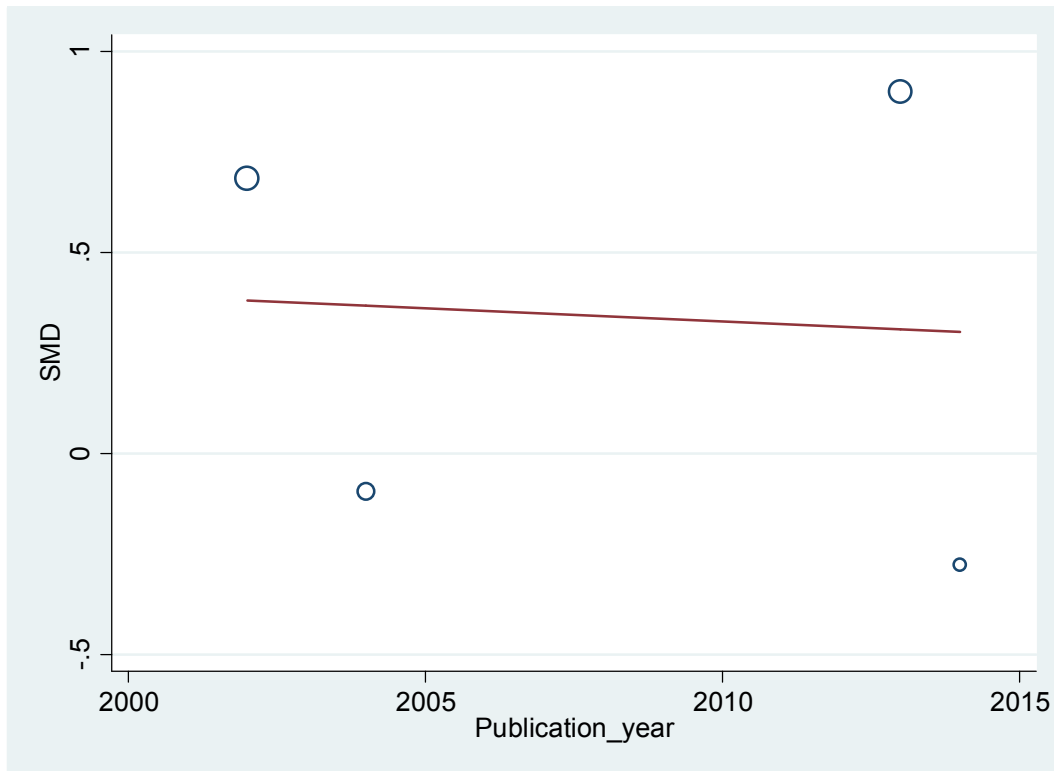


**Figure S3C⑥.** Mean HbA1c(%)

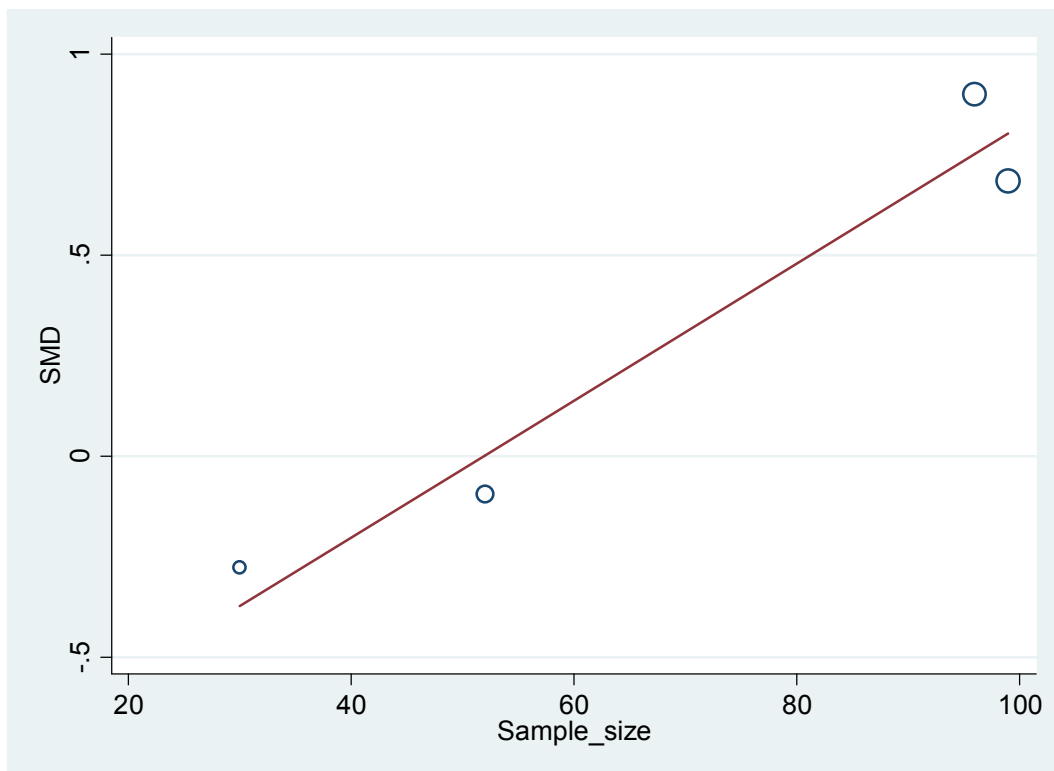


**Figure S3D.** Bubble plots of univariable meta-regressions of LMPs.

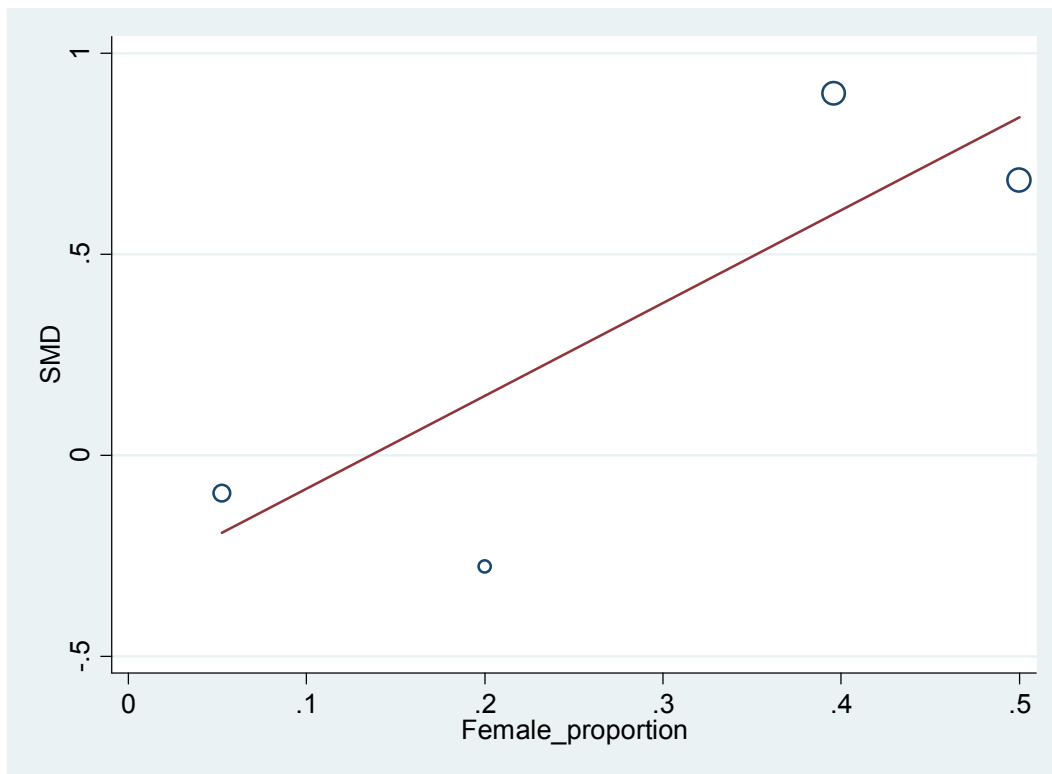
**Figure S3D①.** Publication year



**Figure S3D②.** Sample size



**Figure S3D(3).** Female proportion (Female%)



**Figure S3D(4).** Mean age(Years)

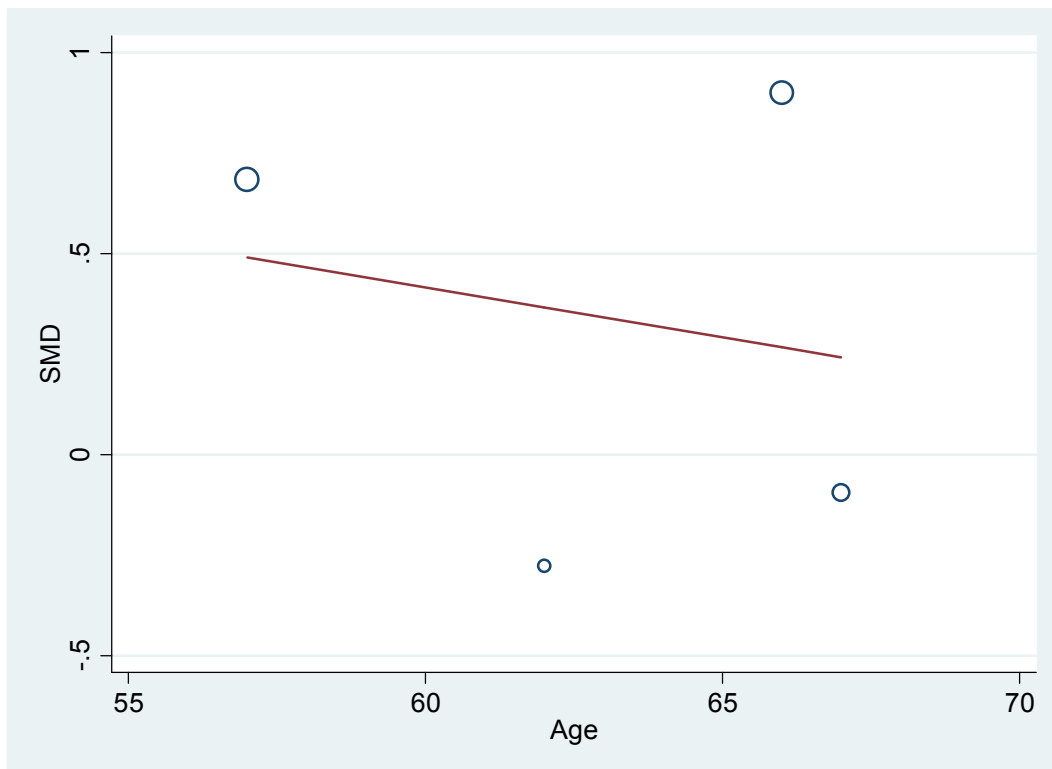
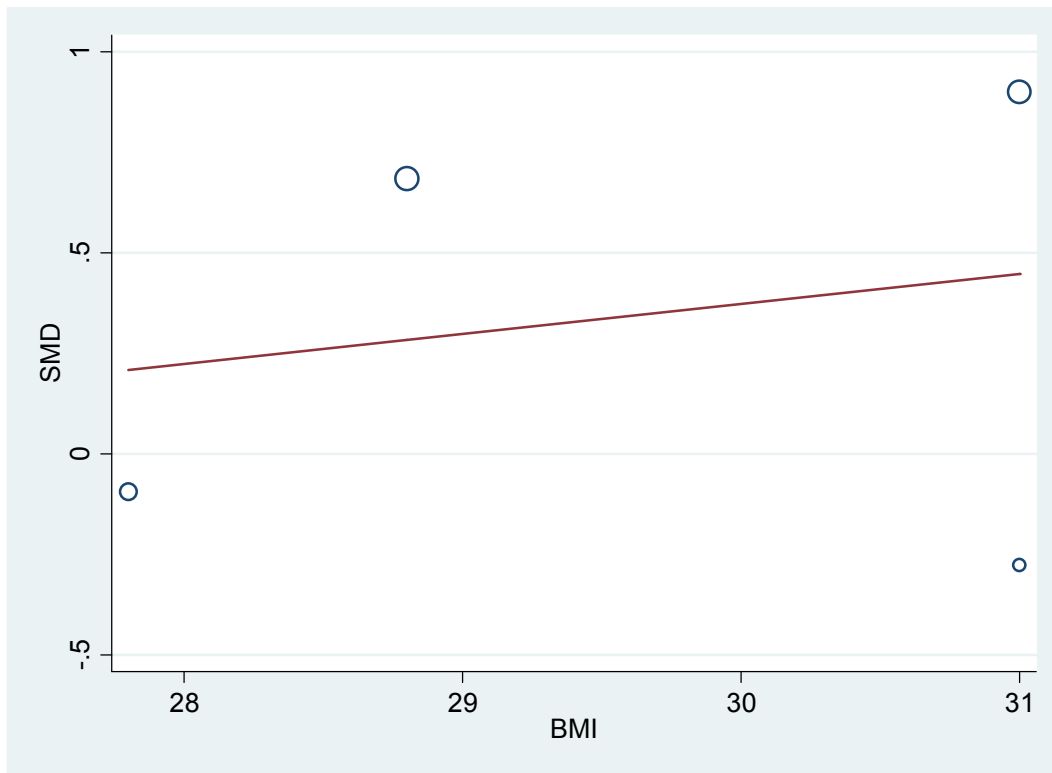
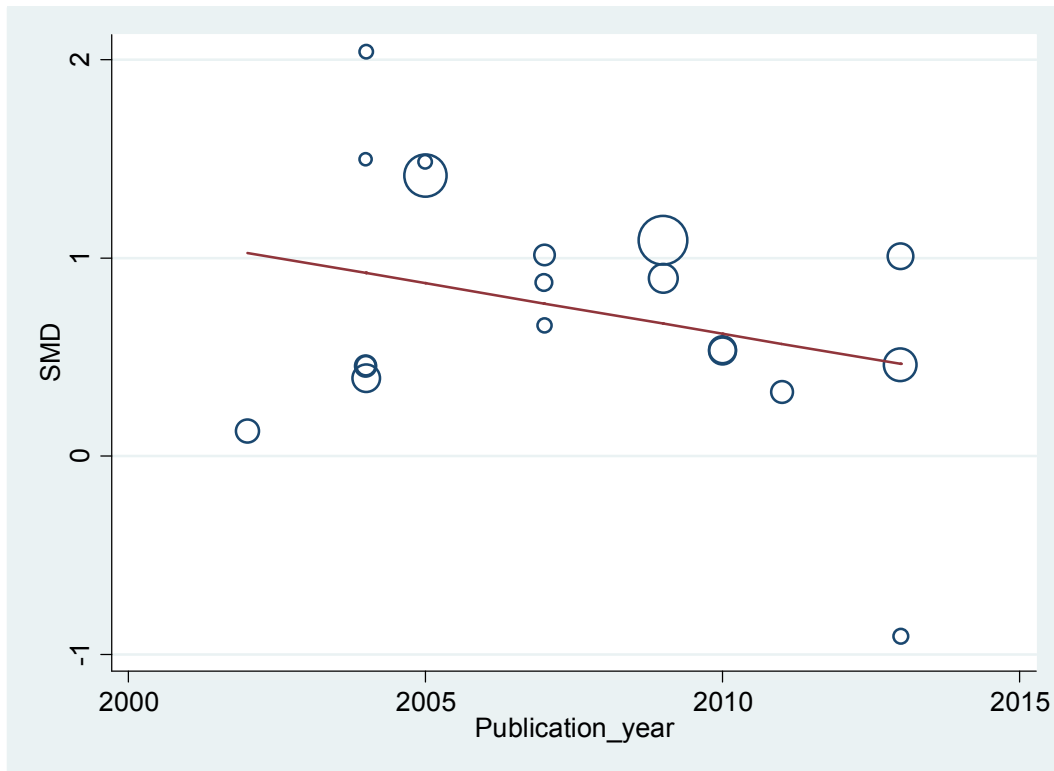


Figure S3D⑤. Mean BMI(kg/m<sup>2</sup>)

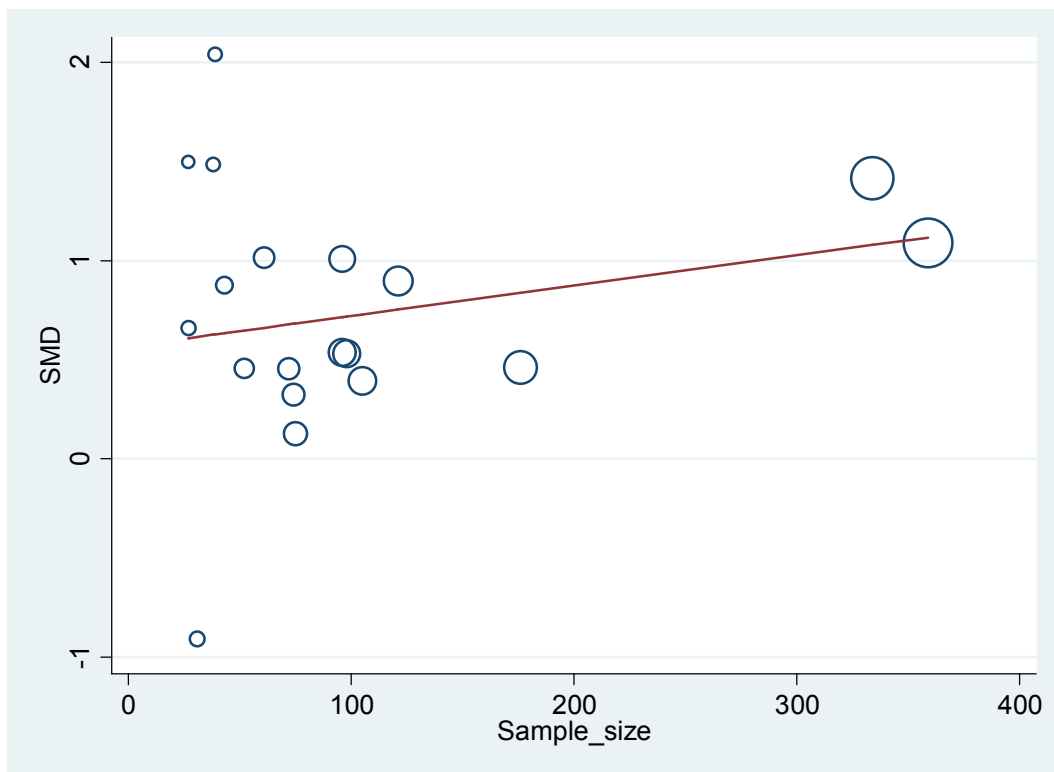


**Figure S3E.** Bubble plots of univariable meta-regressions of EMPs.

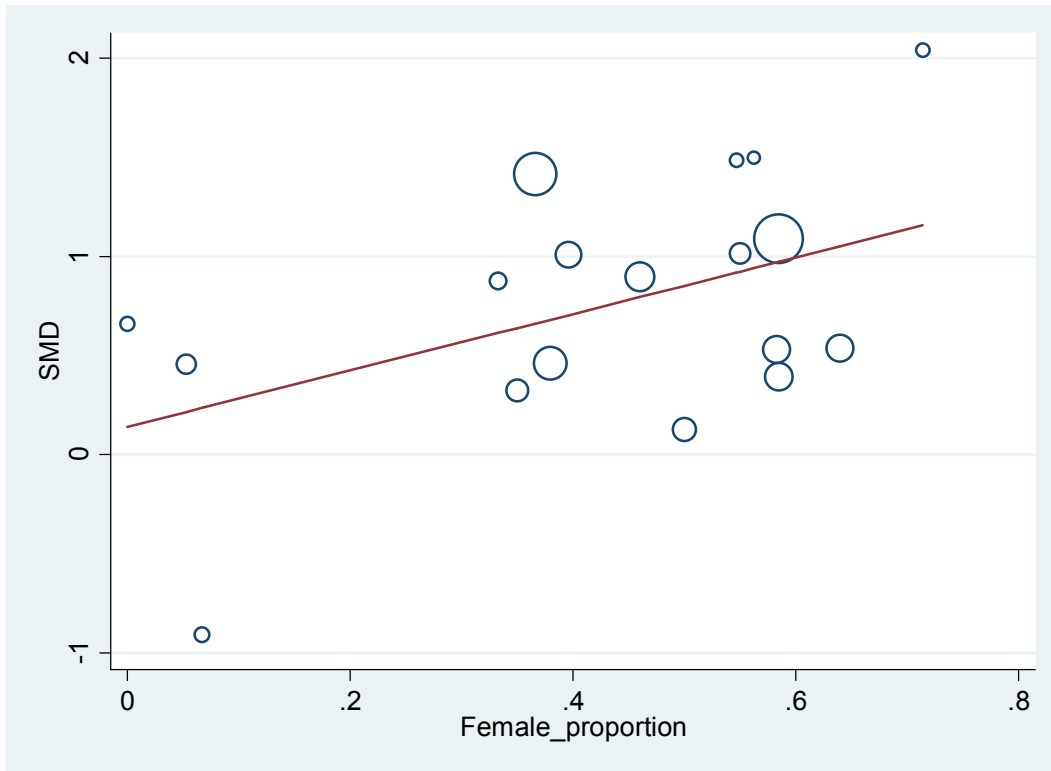
**Figure S3E①.** Publication year



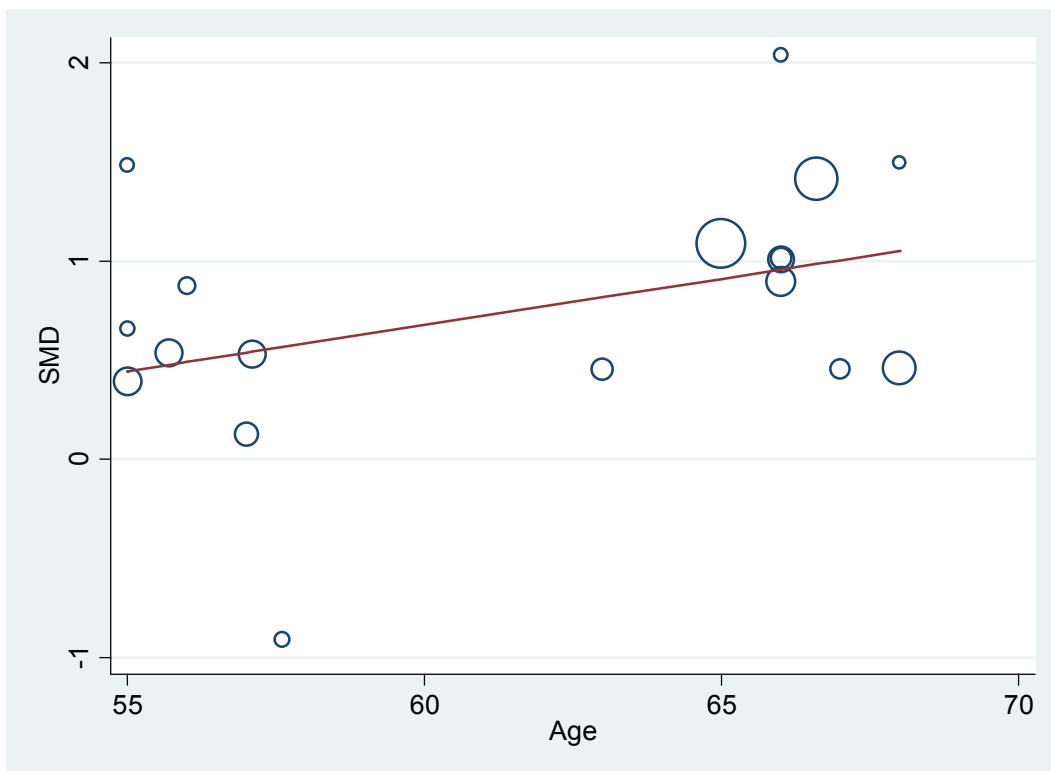
**Figure S3②.** Sample size



**Figure S3E③.** Female proportion (Female%)

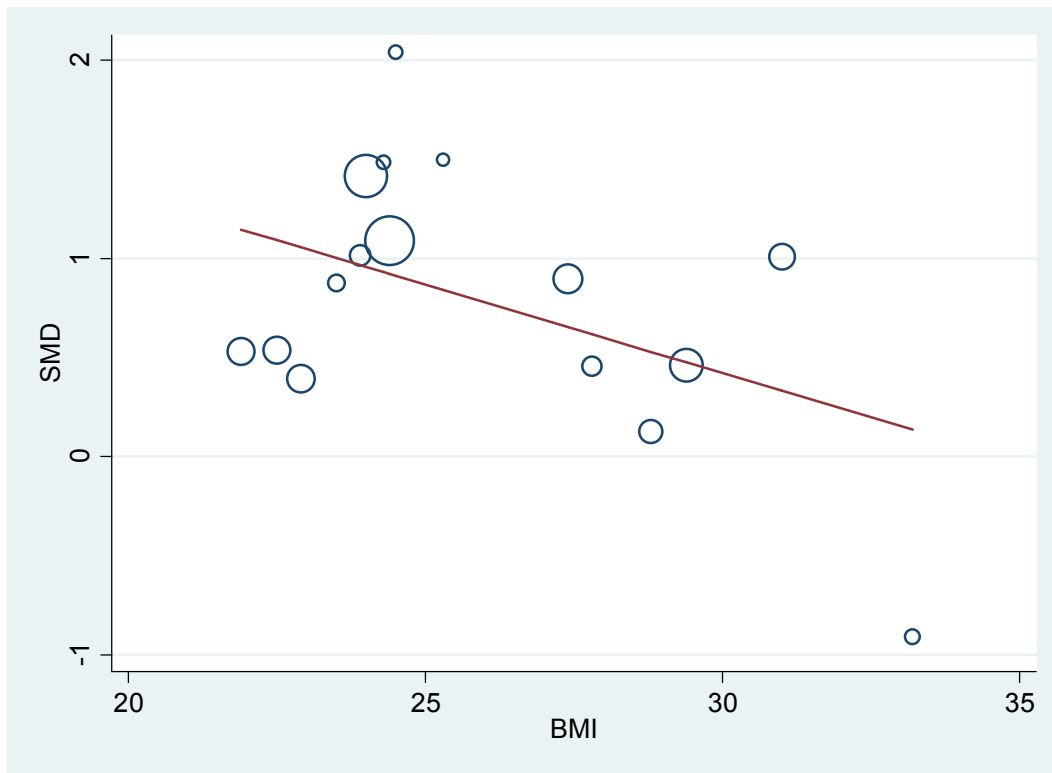


**Figure S3E④.** Mean age(Years)

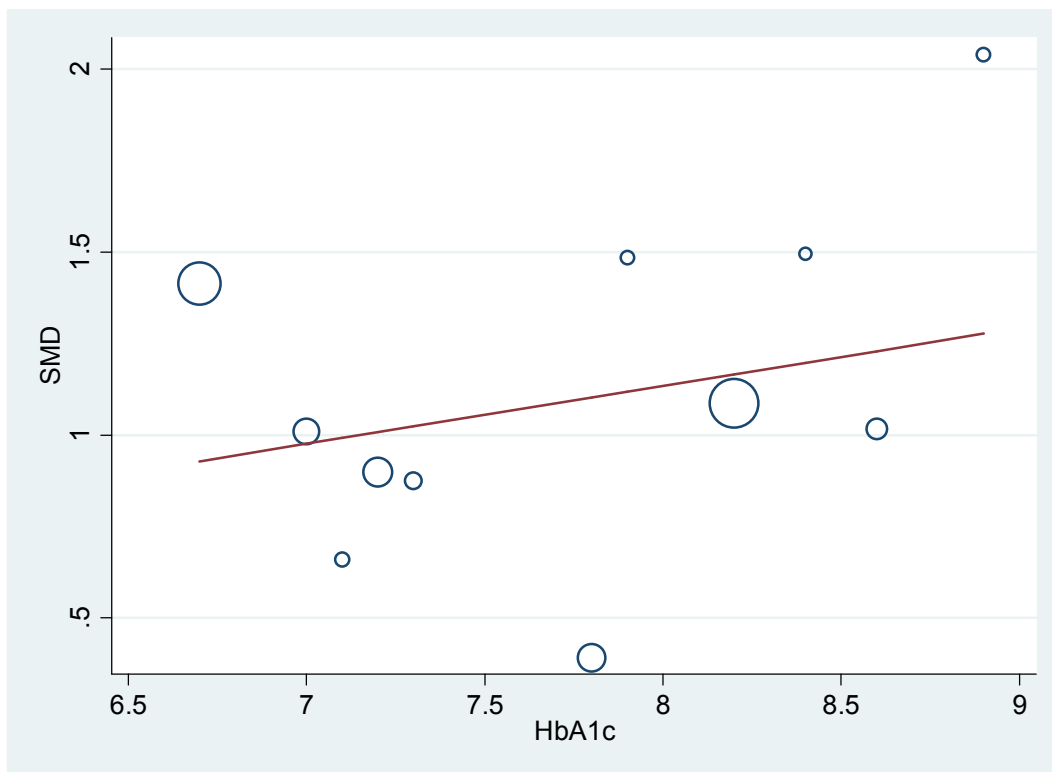




**Figure S3E⑤.** Mean BMI(kg/m<sup>2</sup>)



**Figure S3E⑥.** Mean HbA1c(%)

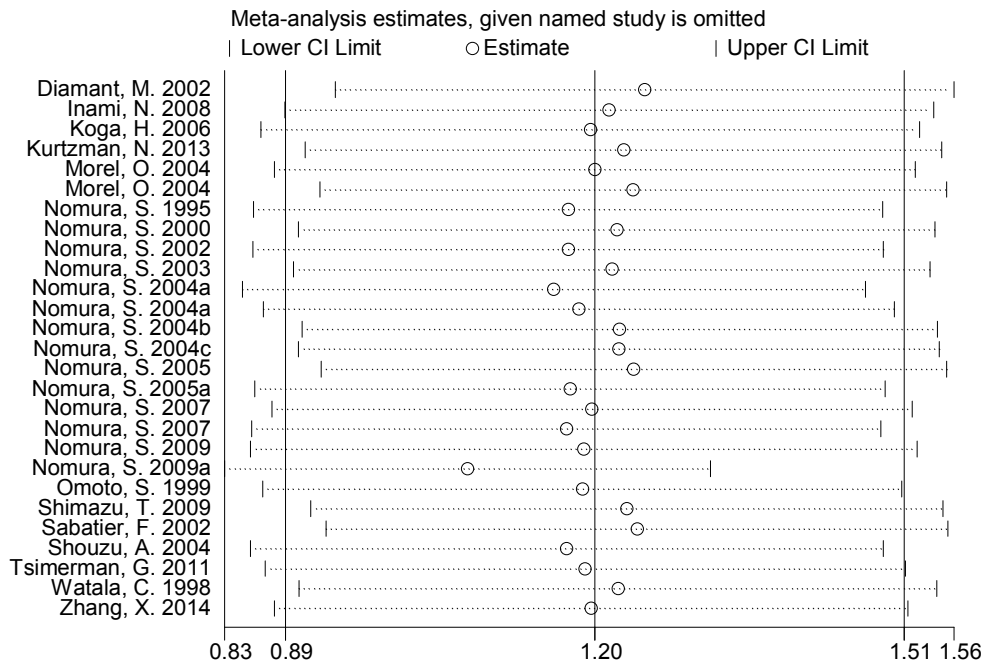


**Figure S4.** Sensitivity analyses of studies concerning each microparticle type.

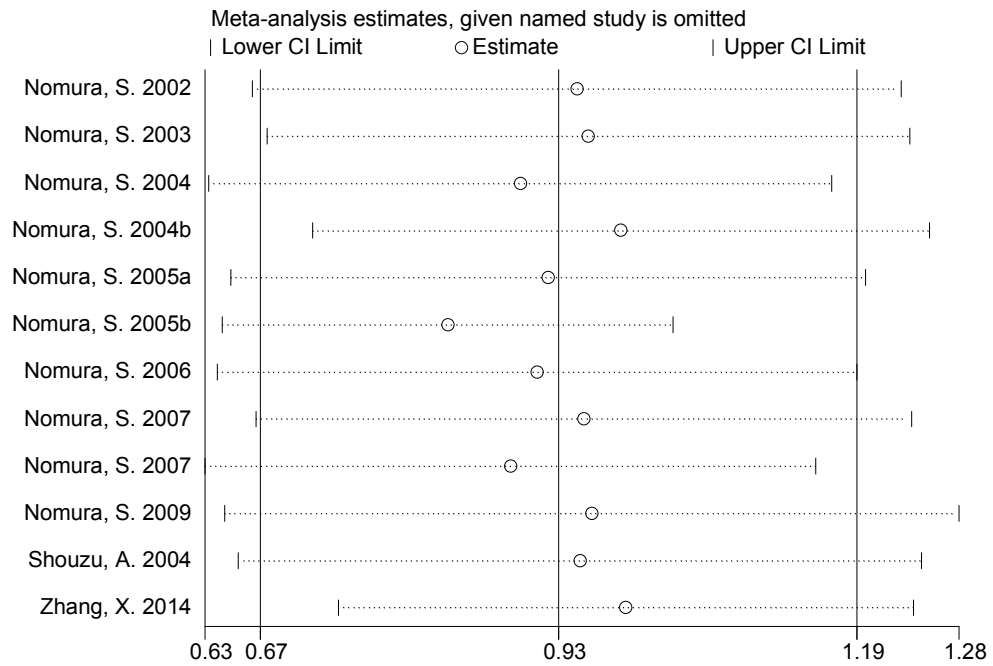
(A. Sensitivity analysis of studies concerning PMPs; B. Sensitivity analysis of studies concerning MMPs; C. Sensitivity analysis of studies concerning EMPs)

CI, confidence interval; EMPs, endothelium-derived microparticles; MMPs, monocyte-derived microparticles; PMPs, platelet-derived microparticles.

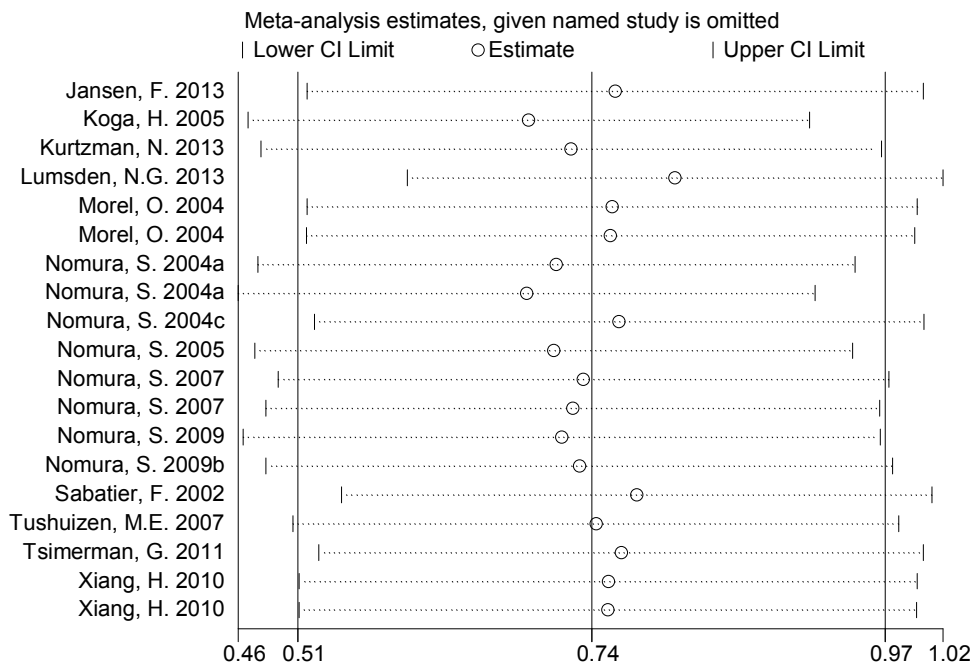
**Figure S4A.** Sensitivity analysis of studies concerning PMPs.



**Figure S4B.** Sensitivity analysis of studies concerning MMPs.



**Figure S4C.** Sensitivity analysis of studies concerning EMPs.

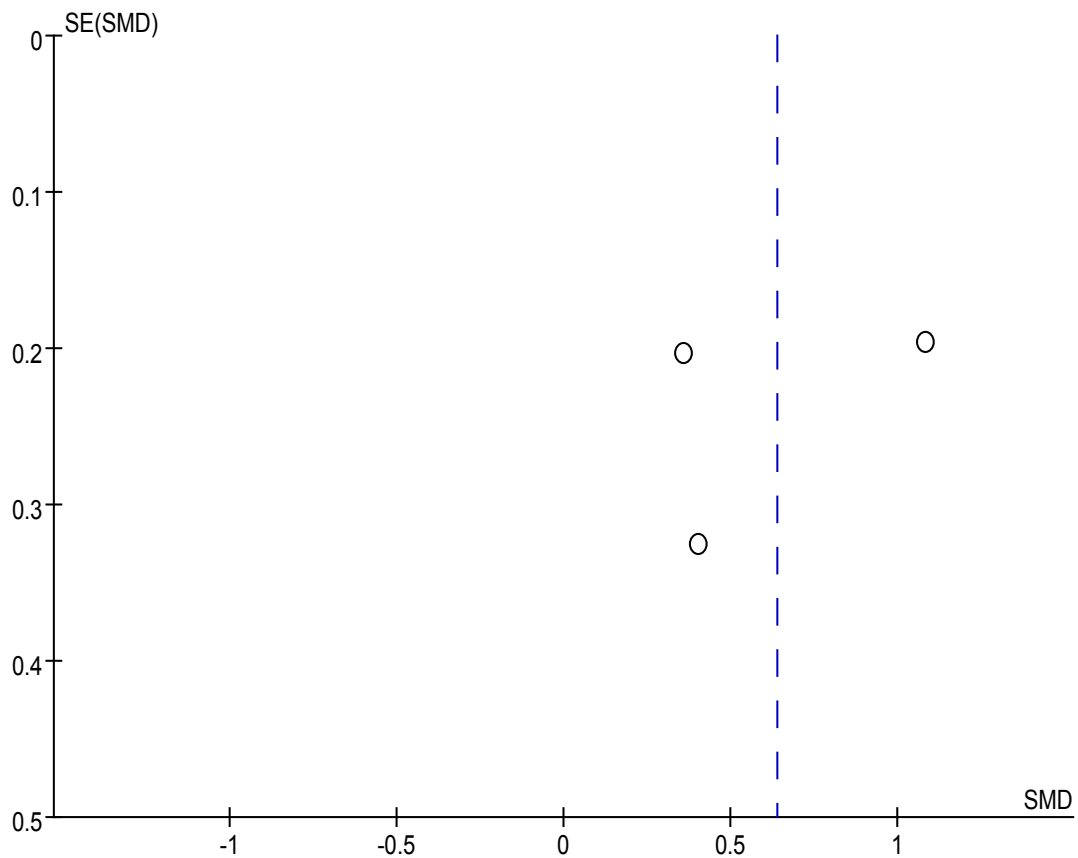


**Figure S5** . Funnel plots, Egger's tests and Begg's tests of studies concerning each microparticle type.

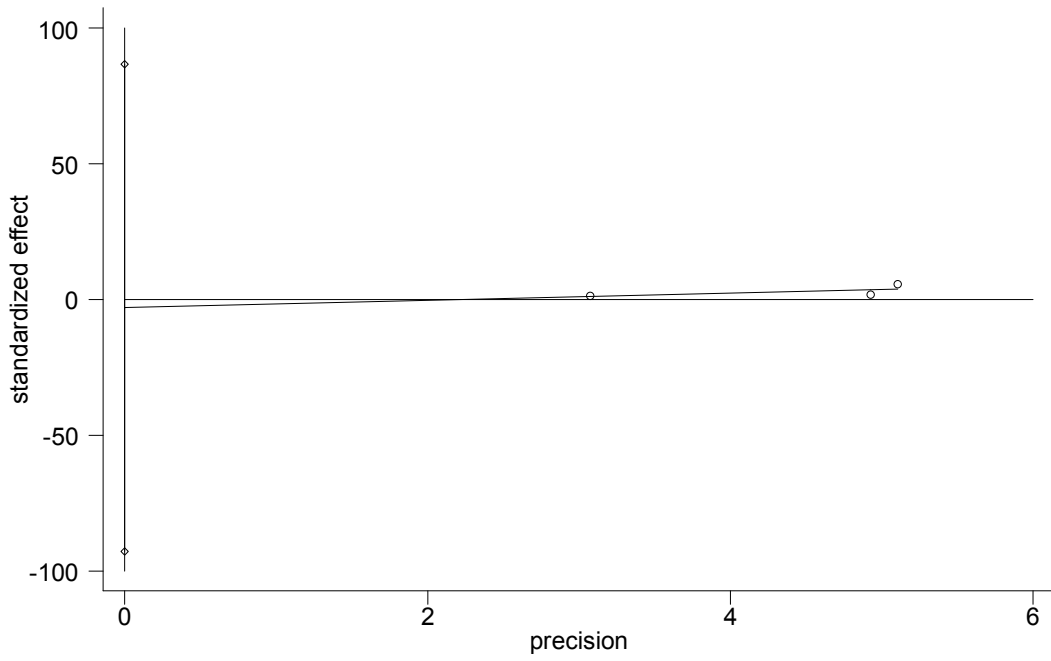
(A. Funnel plot, Egger's test and Begg's test of studies concerning TMPs; B. Funnel plot, Egger's test and Begg's test of studies concerning PMPs; C. Funnel plot, Egger's test and Begg's test of studies concerning MMPs; D. Funnel plot, Egger's test and Begg's test of studies concerning LMPs; E. Funnel plot, Egger's test and Begg's test of studies concerning EMPs)

EMPs, endothelium-derived microparticles; LMPs, leukocyte-derived microparticles; MMPs, monocyte-derived microparticles; PMPs, platelet-derived microparticles; SE, standard error; SMD, standard mean difference; TMPs, the total microparticles.

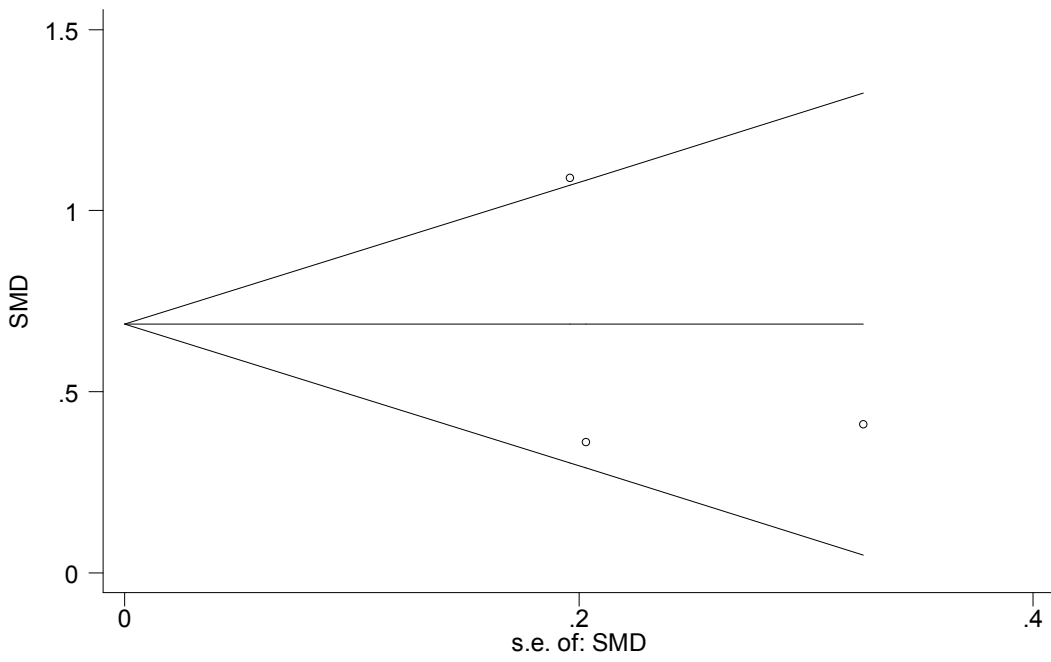
**Figure S5A.** Funnel plot, Egger's test and Begg's test of studies concerning TMPs.



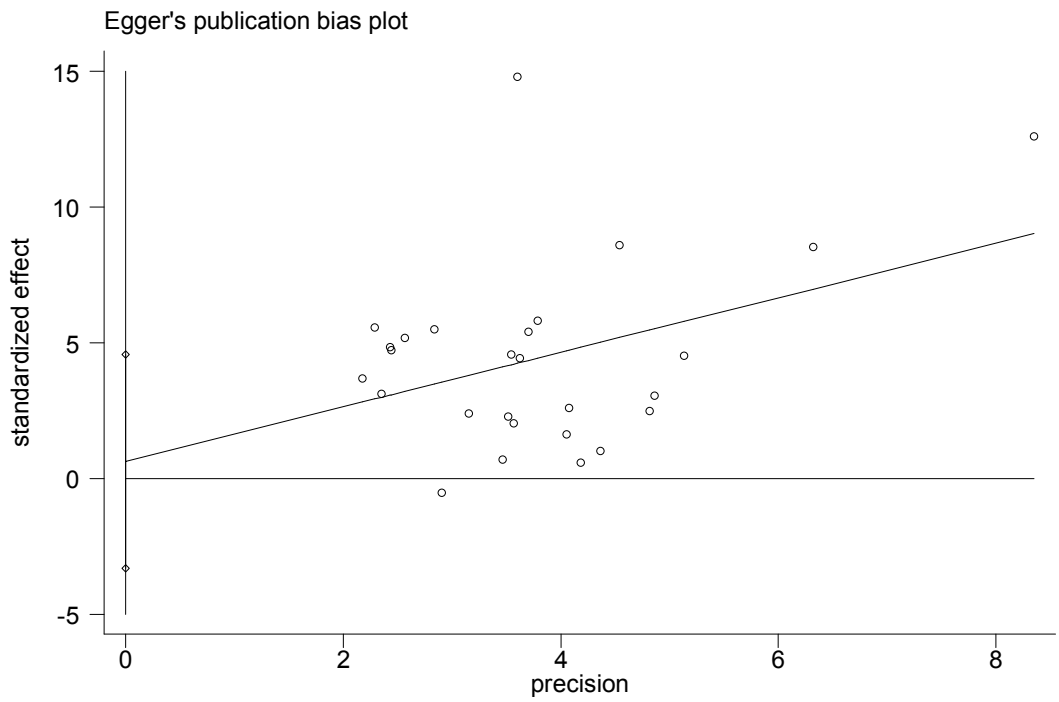
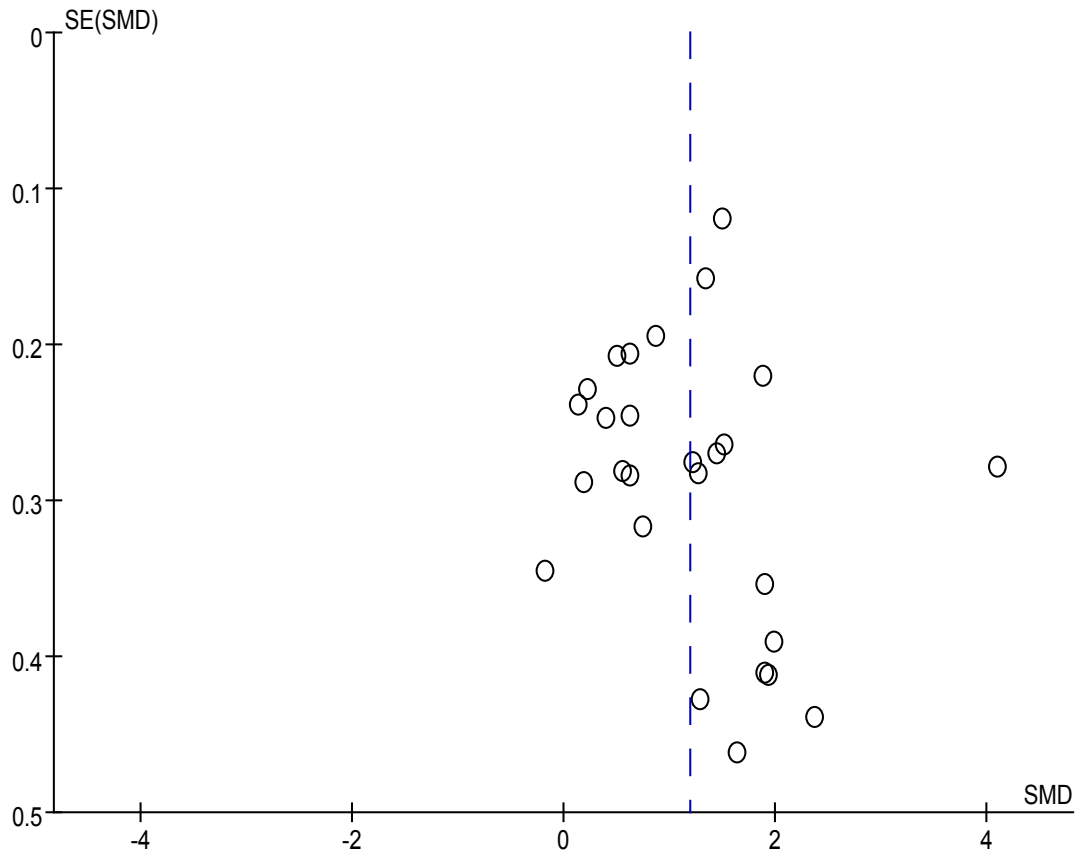
Egger's publication bias plot



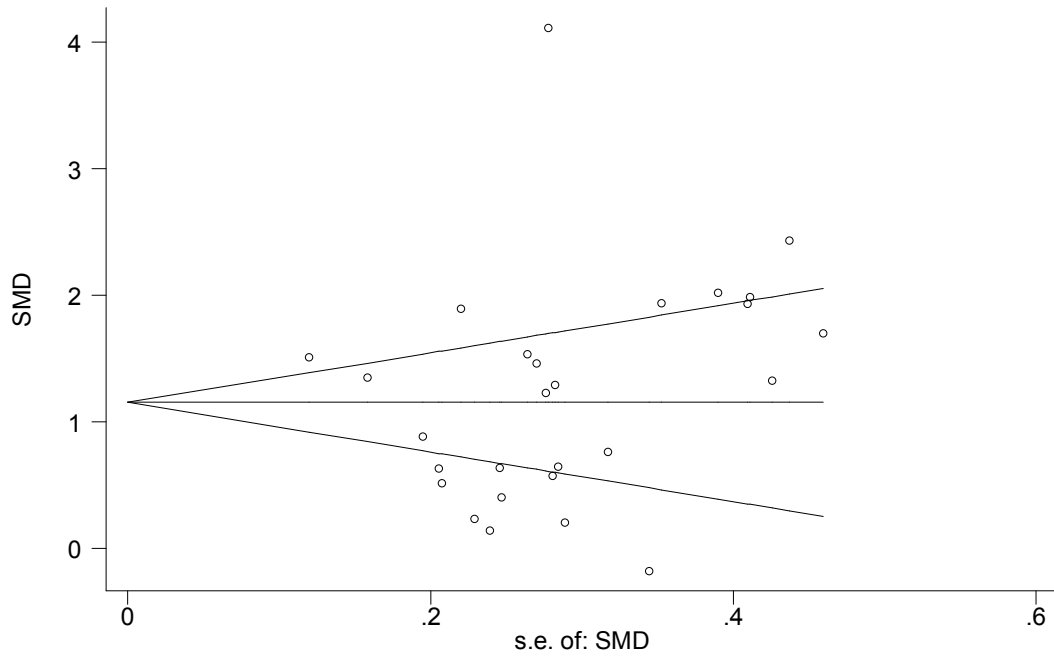
Begg's funnel plot with pseudo 95% confidence limits



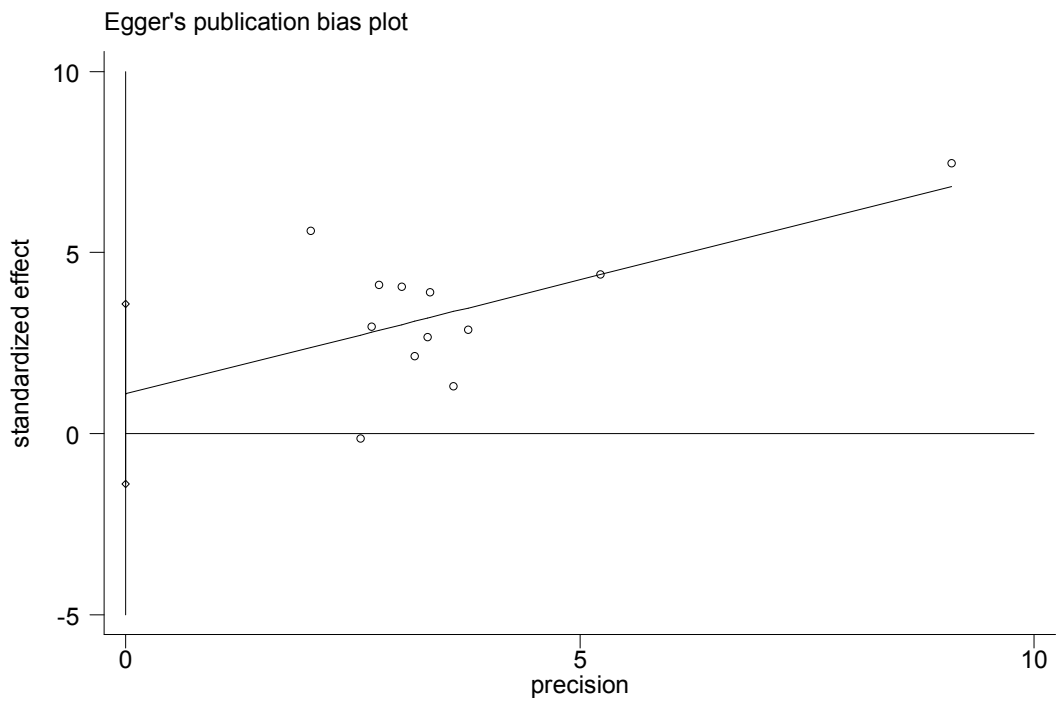
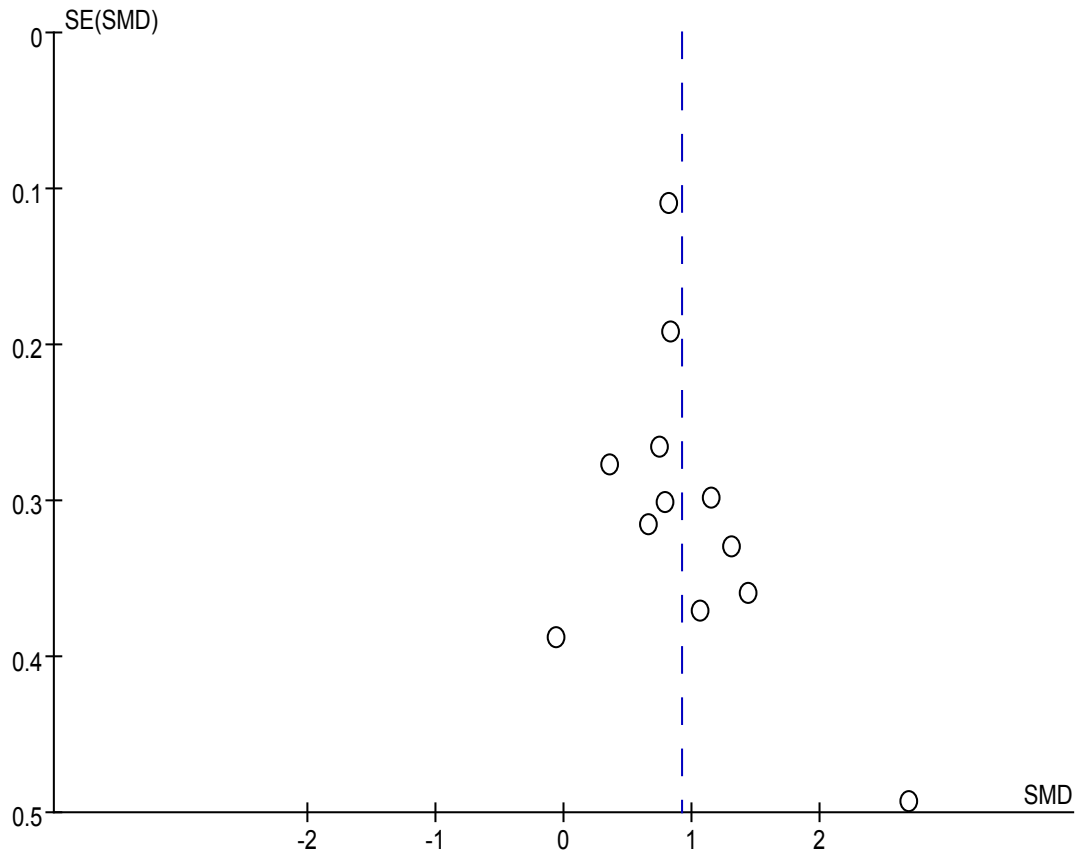
**Figure S5B.** Funnel plot, Egger's test and Begg's test of studies concerning PMPs.



Begg's funnel plot with pseudo 95% confidence limits

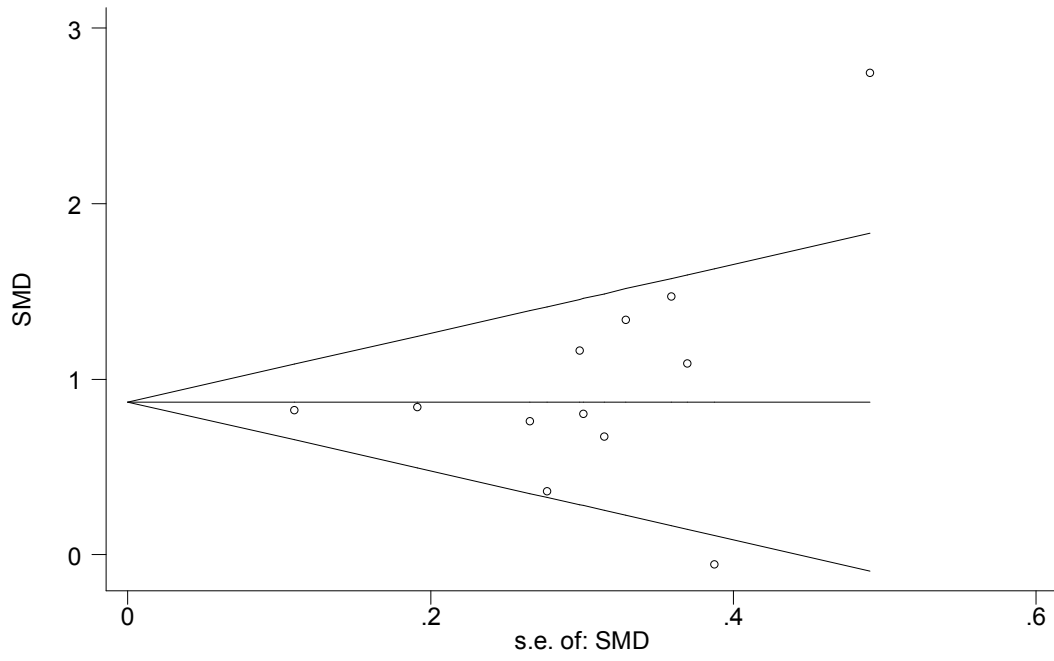


**Figure S5C.** Funnel plot, Egger's test and Begg's test of studies concerning MMPs.

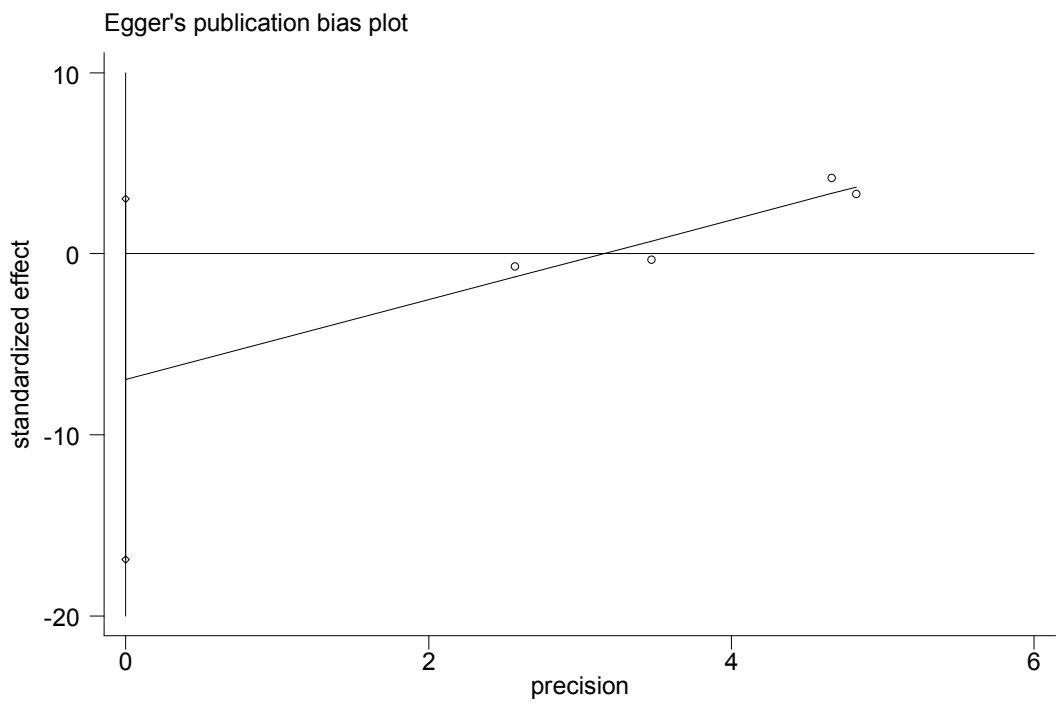
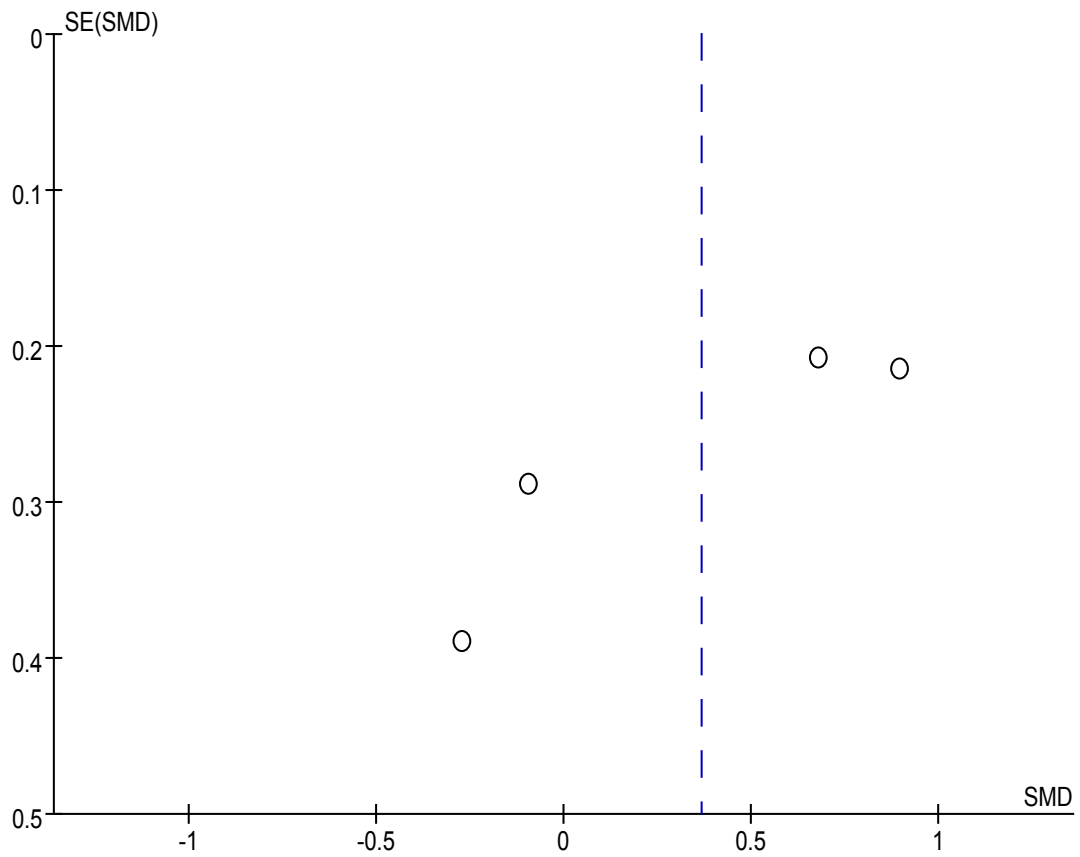




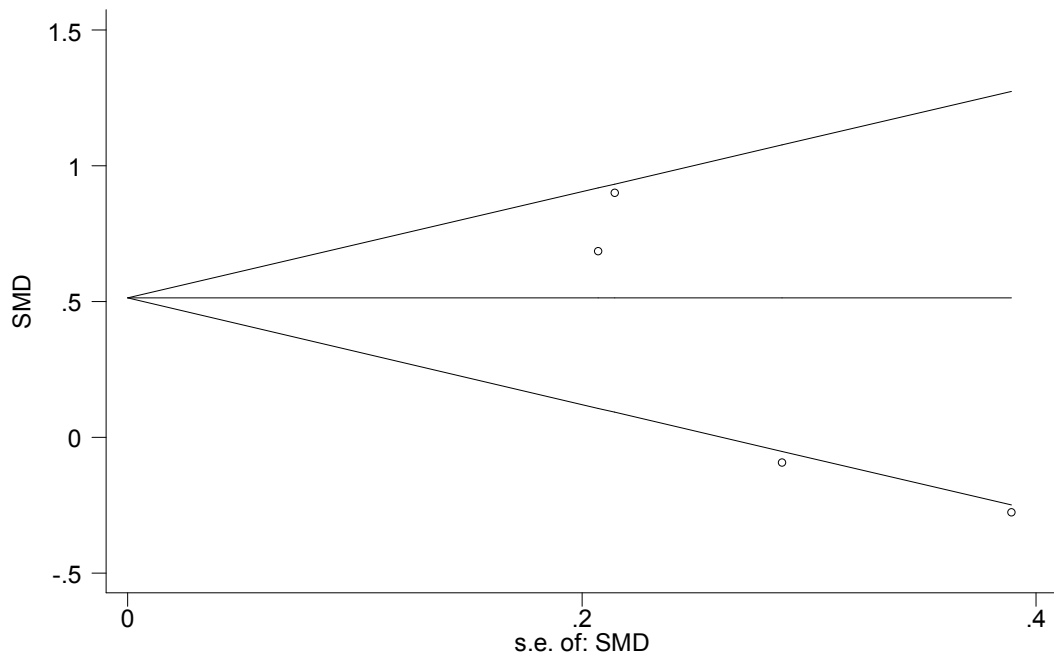
Begg's funnel plot with pseudo 95% confidence limits



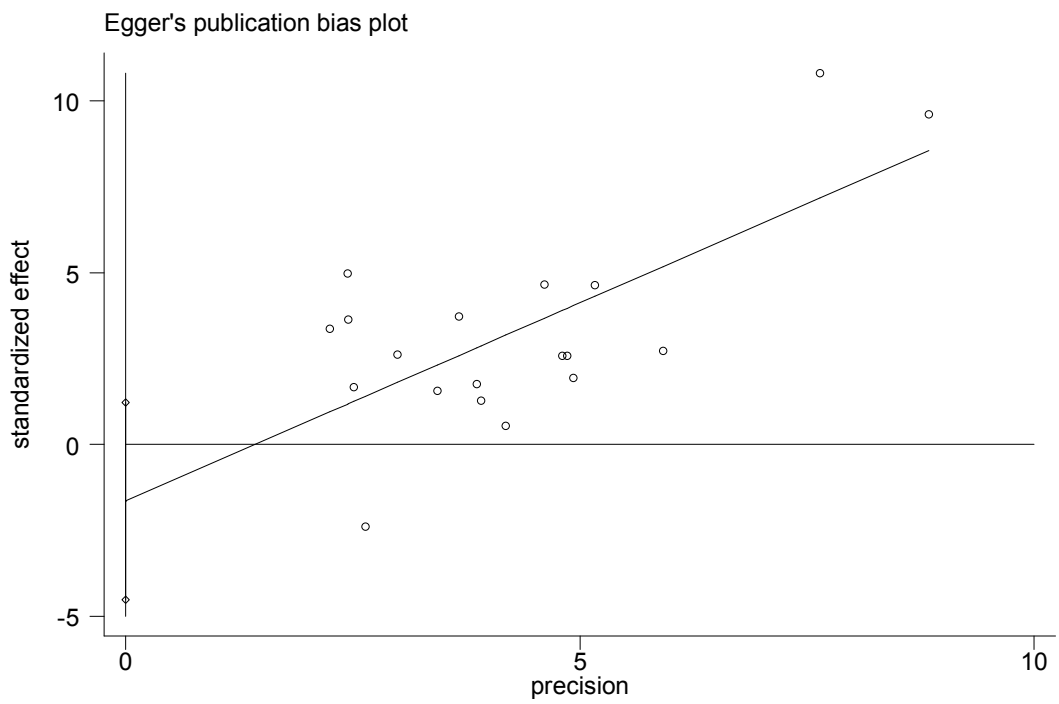
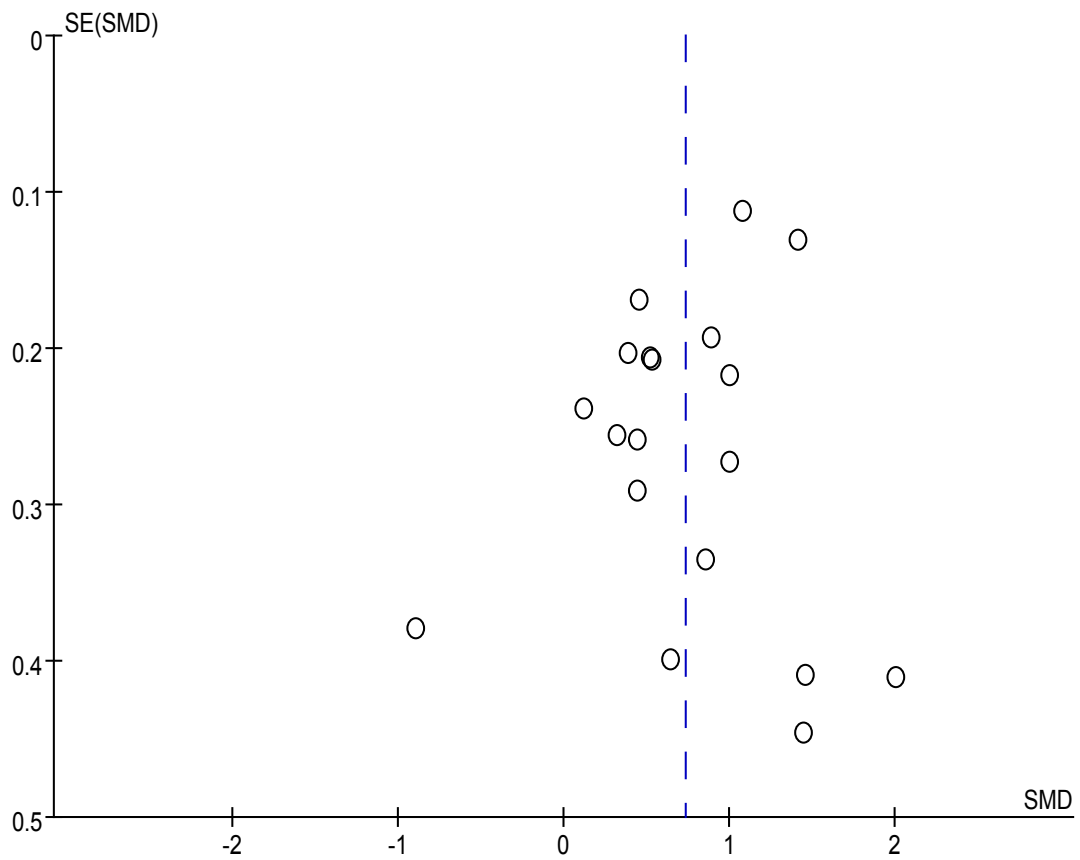
**Figure S5D.** Funnel plot, Egger's test and Begg's test of studies concerning LMPs.



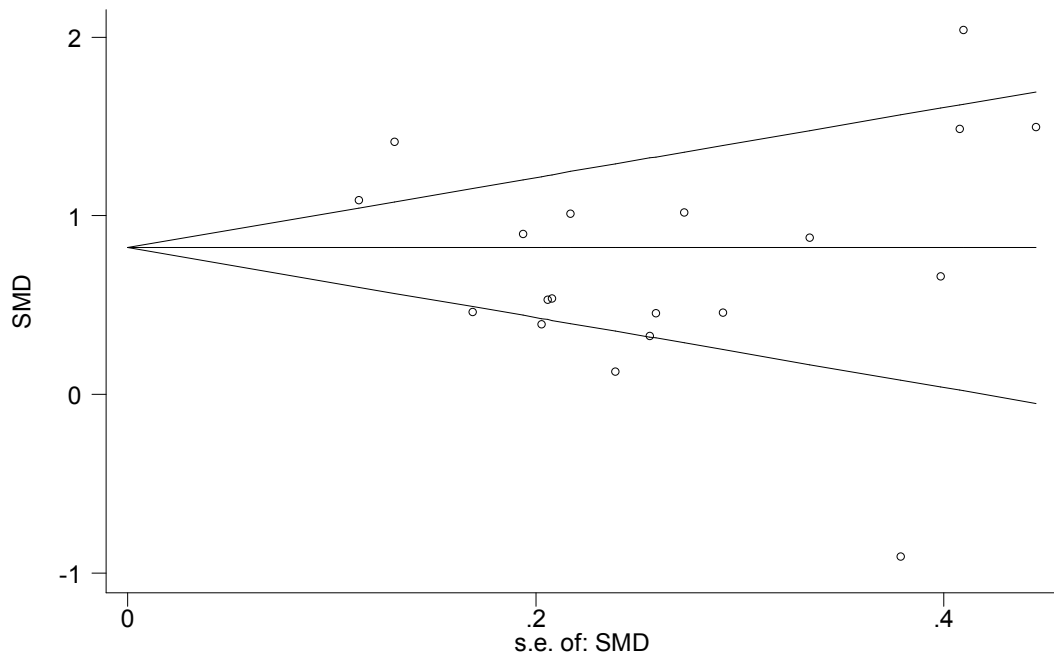
Begg's funnel plot with pseudo 95% confidence limits



**Figure S5E.** Funnel plot, Egger's test and Begg's test of studies concerning EMPs.



Begg's funnel plot with pseudo 95% confidence limits



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