



**Figure S1.** Funnel plots of Standard Error (se) versus the the Mean Difference (MD) on logarithmic scale between positive group (pos) and healthy controls (ctrl) in the levels of each Alpha-Diversity parameters (**A**, Chao1; **B**, OTU number; **C**, Phylogenetic diversity whole tree; **D**, Shannon; **E**, Pielou's evenness; **F**, Simpson). The dots represent point estimate from each study, larger studies will appear at the top of the funnel, while in contrast, effect estimates from smaller studies (studies with higher se so less precision) may be expected to scatter near the bottom of the funnel.

**Table S1.** Data extracted and collected for each outcome considered in the meta-analyses, MD logarithmic transformation by method 3 of Higgins et al. [33].

First Author - Publication Year	<i>C. trachomatis</i> positive (positive group) N	<i>C. trachomatis</i> negative (healthy controls group) N	Chao1				OTU				Phylogenetic Diversity whole tree									
			Raw scale		logarithmic scale		Raw scale		logarithmic scale		Raw scale		logarithmic scale							
			Positive group		Controls group		Positive group		Controls group		Positive group		Controls group							
			Mean	SD	Mean	SD	MD	SE	Mean	SD	Mean	SD	MD	SE	Mean	SD	Mean	SD	MD	SE
Chen H et al. - 2021	6	8	468.74	469.55	777.73	327.01	-0.50	0.36	258.33	210.96	427.86	182.55	-0.49	0.31	-	-	-	-	-	-
Masha SC et al. - 2019	14	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cheong H et al. - 2019	42	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ceccarani C et al. - 2019	20	21	6618.54	1599.84	7980.26	3015.39	-0.19	0.10	1276.25	324.45	1374.95	495.89	-0.07	0.10	71.77	8.55	69.53	19.42	0.03	0.07
Filardo S et al. - 2019	39	99	-	-	-	-	-	-	16.47	7.84	9.75	4.99	0.51	0.10	-	-	-	-	-	-
Filardo S et al. - 2017	7	7	12.99	3.48	9.81	4.44	0.28	0.19	12.56	3.65	9.34	4.14	0.29	0.19	3.77	1.00	2.84	1.47	0.28	0.20
Raimondi S et al. - 2021	10	16	95.23	46.11	98.04	51.70	-0.03	0.20	-	-	-	-	-	-	-	-	-	-	-	-

  

First Author - Publication Year	<i>C. trachomatis</i> positive (positive group) N	<i>C. trachomatis</i> negative (healthy controls group) N	Shannon's				Pielou's				Simpson's									
			Raw scale		logarithmic scale		Raw scale		logarithmic scale		Raw scale		logarithmic scale							
			Positive group		Controls group		Positive group		Controls group		Positive group		Controls group							
			Mean	SD	Mean	SD	MD	SE	Mean	SD	Mean	SD	MD	SE	Mean	SD	Mean	SD	MD	SE
Chen H et al. - 2021	6	8	1.32	1.29	2.34	1.44	-0.56	0.40	-	-	-	-	-	-	0.32	0.36	0.53	0.29	-0.49	0.42
Masha SC et al. - 2019	14	21	1.95	1.27	1.68	2.25	0.15	0.33	-	-	-	-	-	-	0.75	0.30	0.68	0.59	0.10	0.21
Cheong H et al. - 2019	42	35	0.43	0.44	0.53	0.51	-0.22	0.23	0.15	0.15	0.18	0.16	-0.17	0.21	0.22	0.23	0.27	0.26	-0.20	0.23
Ceccarani C et al. - 2019	20	21	4.03	0.89	3.51	1.31	0.14	0.09	-	-	-	-	-	-	-	-	-	-	-	-
Filardo S et al. - 2019	39	99	1.51	0.81	0.72	0.63	0.70	0.13	0.37	0.17	0.22	0.18	0.53	0.11	-	-	-	-	-	-
Filardo S et al. - 2017	7	7	1.46	0.66	0.62	0.47	0.81	0.30	-	-	-	-	-	-	0.51	0.21	0.21	0.18	0.83	0.29
Raimondi S et al. - 2021	10	16	4.10	1.33	3.55	1.73	0.14	0.16	0.64	0.15	0.54	0.22	0.18	0.12	-	-	-	-	-	-