

Supplement Table S9. Fecal microbiota transplant and multiple health outcomes.

outcome(s) of interest	estimated effect (95% CI)	summary of studies / total studies	number of studies	number of intervention group or total participants	Heterogeneity (<i>I</i> ² , %)	the first author + year of publication	Intervention	Duration of Intervention/follow-up	study design	populations	outcome comparison	meta-analysis metric	type of effect model	publication bias
FMT effectiveness (Recovery was defined as the absence of diarrhea between 8 and 13 weeks following treatment)	0.82 (0.75 to 0.89)	15	1168	20.0	POMARE S B R 2021[1]	fecal microbiota transplant (FMT)	NP	clinical trials (n=12) and cohort (n=3)	adult human participants with diagnoses of C. difficile diarrhea aged over 19 years old	any versus none	the proportion of treated patients	fixed	0.511	
	-0.74 (-0.90 to -0.58)	NP	NP	NP	administration of FMT by colonoscopy versus enema					MD	NP	NP		
	0.44 (0.20 to 0.69)	NP	NP	NP	colonoscopy versus capsule									
	-2.28 (-2.63 to -1.93)	NP	NP	NP	colonoscopy versus esophagogastroduodenoscopy									
Clinical cure from rCDI defined as resolution of diarrhea after single FMT infusion.	2.45 (0.78 to 7.71)*	5	79/112	69.0	KHAN M Y 2018[2]	fecal microbiota transplant (FMT)	NP	All RCTs	Patients with documented recurrent Clostridium difficile infection (CDI)	Fresh FMT compared with intervention (frozen FMT and MT)	OR	random	NP	
	0.62 (0.15 to 2.54)*	2	57/63	0.0	frozen FMT using upper versus lower route for diarrhea resolution									
Resolution of diarrhea after multiple fecal microbiota transplantation infusions	1.82 (0.6 to 5.59)*	3	37/43	0.0						Fresh FMT versus rest of the treatments				
Clostridium difficile recurrence	0.18 (0.02 to 2.23)*	3	12/52	82.0						Fresh FMT versus rest of the treatments				
Resolution of diarrhea	2.98 (0.56 to 15.93)*	3	33/52	72.0						single FMT infusion versus medical treatment (MT) only				
Resolution of diarrhea	3.68 (0.74 to 18.22)*	2	7/10	0.0						multiple FMT infusion versus MT only				
not achieving Combined Remission or Endoscopic	0.80 (0.71 to 0.89)	4	101/140	0.0	NARULA N 2017[3]	fecal microbiota transplant in	6-12weeks	All RCTs	adult subjects with endoscopically and clinically active UC based on clinical	any versus none	RR	random	NP	

Remission/Response with donor FMT						ulcerative colitis(UC)			assessment scores commonly used for UC						
not achieving Clinical remission with donor FMT	0.76(0.62 to 0.93)	4	81/140	31.0											
not achieving endoscopic remission with donor FMT	0.85(0.69 to 1.05)*	4	103/140	77.0											
clinical remission	40.5%(24.7% to 58.7%)	13	141	36.5	SHI 2016[4]	Y	fecal microbiota transplantat ion in ulcerative colitis(UC)	NP	cohort	patients with colitis FMT	of any age ulcerative undertaken	any versus none	pooled rates	Rando m	No serious bias
clinical response	66.1%(43.7%to 83.0%)	11	132	40.2											
combined clinical remission with endoscopic remission/response	0.76(0.65 to 0.89)	3	60/86	0.0	LIU 2021[5]	X	Fecal microbiota transplantat ion from pooled donor in ulcerative colitis(UC)	NP	All RCTs	patients with colitis FMT	of any age ulcerative undertaken	any versus none	RR	Rando m	NP
	0.79(0.70 to 0.97)	2	45/61	0.0			Fecal microbiota transplantat ion from single donor in ulcerative colitis(UC)								
	0.79(0.70 to 0.89)	3	85/117	0.0			FMT via the lower gastrointestinal tract								
	0.79(0.58 to 1.09)*	2	20/30	8.0			FMT via the upper gastrointestinal tract								
	0.79(0.69 to 0.90)	3	63/86	0.0			FET with higher frequency								
	0.79(0.65 to 0.96)	2	42/61	0.0			FET with lower								

not achieving antimicrobial resistance remission	0.44(0.20 to 0.99)	4	57/111	65.0	TARIQ R 2019[11]	fecal microbiota transplantat ion	NP	All case series studie s with a contro l arm	disease, Pouchitis and	adult (>18 years) population With AMR colonization	FMT versus treatment naive	RR	Rando m	NP
(AMR)	0.37(0.18 to 0.79)	2	26/56	23.0										

* No statistical significance; CI, confidence interval; RCT, randomized controlled trial; RR, relative risk; HR, hazard ratio; MD, mean difference; SMD, standard mean difference; WMD, weighted mean difference; OR, odds ratio; NA, not available; NP, not published.

References

1. Pomares Bascuñana, R.Á.; Veses, V.; Sheth, C.C. Effectiveness of fecal microbiota transplant for the treatment of Clostridioides difficile diarrhea: a systematic review and meta-analysis. *Lett. Appl. Microbiol.* **2021**, *73*, 149-158, doi: 10.1111/lam.13486.
2. Khan, M.Y.; Dirweesh, A.; Khurshid, T.; Siddiqui, W.J. Comparing fecal microbiota transplantation to standard-of-care treatment for recurrent Clostridium difficile infection: a systematic review and meta-analysis. *Eur. J. Gastroen. Hepat.* **2018**, *30*, 1309-1317, doi: 10.1097/MEG.0000000000001243.
3. Narula, N.; Kassam, Z.; Yuan, Y.; Colombel, J.; Ponsioen, C.; Reinisch, W.; Moayyedi, P. Systematic Review and Meta-analysis. *Inflamm. Bowel Dis.* **2017**, *23*, 1702-1709, doi: 10.1097/MIB.0000000000001228.
4. Shi, Y.; Dong, Y.; Huang, W.; Zhu, D.; Mao, H.; Su, P. Fecal Microbiota Transplantation for Ulcerative Colitis: A Systematic Review and Meta-Analysis. *PLoS One* **2016**, *11*, e157259, doi: 10.1371/journal.pone.0157259.
5. Liu, X.; Li, Y.; Wu, K.; Shi, Y.; Chen, M. Fecal Microbiota Transplantation as Therapy for Treatment of Active Ulcerative Colitis: A Systematic Review and Meta-Analysis. *Gastroent. Res. Pract.* **2021**, *2021*, 1-13, doi: 10.1155/2021/6612970.
6. Cold, F.; Baunwall, S.M.D.; Dahlerup, J.F.; Petersen, A.M.; Hvas, C.L.; Hansen, L.H. Systematic review with meta-analysis: encapsulated faecal microbiota transplantation – evidence for clinical efficacy. *Therapeutic Advances in Gastroenterology* **2021**, *14*, 1320557622, doi: 10.1177/17562848211041004.
7. Dang, X.; Xu, M.; Liu, D.; Zhou, D.; Yang, W. Assessing the efficacy and safety of fecal microbiota transplantation and probiotic VSL#3 for active ulcerative colitis: A systematic review and meta-analysis. *PLoS One* **2020**, *15*, e228846, doi: 10.1371/journal.pone.0228846.
8. Ianiro, G.; Eusebi, L.H.; Black, C.J.; Gasbarrini, A.; Cammarota, G.; Ford, A.C. Systematic review with meta-analysis: efficacy of faecal microbiota transplantation for the treatment of irritable bowel syndrome. *Aliment. Pharm. Ther.* **2019**, *50*, 240-248, doi: 10.1111/apt.15330.
9. Proença, I.M.; Allegretti, J.R.; Bernardo, W.M.; de Moura, D.T.H.; Ponte Neto, A.M.; Matsubayashi, C.O.; Flor, M.M.; Kotinda, A.P.S.T.; de Moura, E.G.H. Fecal microbiota transplantation improves metabolic syndrome parameters: systematic review with meta-analysis based on randomized clinical trials. *Nutr. Res.* **2020**, *83*, 1-14, doi: 10.1016/j.nutres.2020.06.018.

10. Caldeira, L.D.F.; Borba, H.H.; Tonin, F.S.; Wiens, A.; Fernandez-Llimos, F.; Pontarolo, R. Fecal microbiota transplantation in inflammatory bowel disease patients: A systematic review and meta-analysis. *PLoS One* **2020**, *15*, e238910, doi: 10.1371/journal.pone.0238910.
11. Tariq, R.; Furqan, F.; Pardi, D.; Khanna, S. 201 Efficacy of Fecal Microbiota Transplantation for Acute Graft Versus Host Disease in the Gut: A Systematic Review and Meta-Analysis. *Am. J. Gastroenterol.* **2019**, *114*, S123, doi: 10.14309/01.ajg.0000590336.17703.14.