

Supplementary Table S1: Key search terms used during the semi-structured literature search for relevant papers in the PubMed, Embase, Emcare, and Cochrane databases.

Participants	Studies	Gut microbiome	Adverse effects	Cancer treatments
"neoplasms" [mh] OR Cancer*[tw] OR leukaemia[tw] OR leukemia[tw] OR oncolog*[tw] OR tumor*[tw] OR Tumour*[tw] OR carcinoma*[tw] OR non- squamous cell carcinoma [tw] OR NSCC[tw] OR neoplasm*[tw]	Clinical trial[pt] OR interven* [tw] OR trial [tw] OR "randomi sed control trial" [tw] OR "pilot stud*" [tw] OR "cohort stud*" [tw]	"Gastrointestinal Microbiome"[mh] OR gut microbio*[tw] OR gut microbiome*[tw] OR gut flora[tw] OR gastric microbio*[tw] OR intestinal flora[tw] OR intestinal microbiota*[tw] OR enteric bacteria[tw] OR gastrointestinal microbio*[tw]	"mucositis"[mh] OR "fatigue"[mh:noexp] OR "Diarrhea"[mh:noexp] OR "cognitive dysfunction"[mh] OR "anxiety"[mh] OR "depression"[mh] OR "mental health"[mh] OR "cancer cachexia" [tw] OR fatigue[tw] OR mucositis[tw] OR GIT mucositis[tw] OR gastrointestinal mucositis[tw] OR oral mucositis[tw] OR diarrhoea[tw] OR diarrhea[tw] OR psychoneurological[tw] OR cognit*[tw] OR "fear of recurrence"[tw] OR anxiet*[tw] OR depres*[tw] OR mental health[tw]	"Induction Chemotherapy"[mh] OR "Induction Chemotherapy/adverse effects"[mh] OR "Chemotherapy, Adjuvant"[mh] OR "Chemotherapy, Adjuvant/adverse effects"[mh] OR "maintenance chemotherapy"[mh] OR "maintenance chemotherapy/adverse effects"[mh] OR "radiotherapy"[mh] OR "immunotherapy"[mh] OR chemotherap*[tw] OR radiotherap*[tw] OR immunotherap*[tw]