

Appendix. Search Strategy

MEDLINE (Pubmed)

Microbiome string

("fecal"[Title/Abstract] OR "faecal"[Title/Abstract] OR "feces"[MeSH Terms] OR "feces"[Title/Abstract] OR "stool"[Title/Abstract] OR "microbiom"[Title/Abstract] OR "microbiota"[Title/Abstract] OR "16s"[Title/Abstract] OR "gastrointestinal microbiome"[MeSH Terms] OR "probiotics"[MeSH Terms] OR "probiotic"[Title/Abstract] OR "lactobacill"[Title/Abstract] OR "Lactobacillus"[MeSH Terms] OR "l acidophilus"[Title/Abstract] OR "l casei"[Title/Abstract] OR "Bifidobacterium"[MeSH Terms] OR "bifidobacter"[Title/Abstract] OR "b infantis"[Title/Abstract] OR "b bifidum"[Title/Abstract] OR "b longum"[Title/Abstract] OR "Saccharomyces"[MeSH Terms] OR "saccharomyce"[Title/Abstract] OR "s boulardii"[Title/Abstract] OR "Clostridium"[MeSH Terms] OR "Clostridium"[Title/Abstract] OR "Streptococcus"[MeSH Terms] OR "streptococ"[Title/Abstract] OR "prebiotic"[Title/Abstract] OR "fecal microbiota transplantation"[MeSH Terms] OR "brain-gut axis"[MeSH Terms] OR "brain-gut axis"[Title/Abstract] OR "anti bacterial agents"[MeSH Terms] OR "antibiotic"[Title/Abstract] OR "anti biotic"[Title/Abstract] OR "anti biotics"[Title/Abstract] OR "antimicrobial"[Title/Abstract])

AND

Cognition string

("SF-12"[Title/Abstract] OR "PROMIS"[Title/Abstract] OR "MD Anderson Symptom Inventory"[Title/Abstract] OR "EuroQol"[Title/Abstract] OR "eortc"[Title/Abstract] OR "QLQ-C30"[Title/Abstract] OR "Distress Thermometer"[Title/Abstract] OR "Center for Epidemiologic Studies Depression Scale"[Title/Abstract] OR "Cambridge Neuropsychological Test Automated Battery"[Title/Abstract] OR "Reaction Time"[MeSH Terms] OR "Reaction Time"[Title/Abstract] OR "Concept Formation"[MeSH Terms] OR "Judgment"[MeSH Terms] OR "memory"[MeSH Terms] OR "memory"[Title/Abstract] OR "executive function"[MeSH Terms] OR "executive function"[Title/Abstract] OR "problem solving"[MeSH Terms] OR "problem solving"[Title/Abstract] OR "attention"[MeSH Terms] OR "Intelligence quotient"[Title/Abstract] OR "IQ"[Title/Abstract] OR "mental fatigue"[MeSH Terms] OR "mental fatigue"[Title/Abstract] OR "brain fog"[Title/Abstract] OR "cognitive dysfunction"[MeSH Terms] OR "cognitive dysfunction"[Title/Abstract] OR "cognition"[MeSH Terms] OR "cognit"[Title/Abstract] OR "alzheimer disease"[MeSH Terms] OR "alzheimer disease"[Title/Abstract] OR "dementia"[MeSH Terms] OR "dementia"[Title/Abstract])

AND

Systematic review string

(Meta-analysis[Publication Type] OR meta-analysis[Title/Abstract] OR meta-analysis[MeSH Terms] OR review[Publication Type] OR search*[Title/Abstract])

Embase (Ovid)

fecal*.tw. OR faecal*.tw. OR exp feces/ OR feces.tw. OR stool*.tw. OR microbiom*.tw. OR microbiota.tw. OR 16s.tw. OR exp "gastrointestinal microbiome"/ OR exp probiotics/ OR probiotic*.tw. OR lactobacill*.tw. OR exp Lactobacillus/ OR "l acidophilus".tw. OR "l casei".tw. OR exp Bifidobacterium/ OR bifidobacter*.tw. OR "b infantis".tw. OR "b bifidum".tw. OR "b longum".tw. OR exp Saccharomyces/ OR saccharomyce*.tw. OR "s boulardii".tw. OR exp Clostridium/ OR Clostridium.tw. OR exp Streptococcus/ OR streptococ*.tw. OR prebiotic*.tw. OR exp "fecal microbiota transplantation"/ OR exp "brain-gut axis"/ OR "brain-gut axis".tw. OR exp "anti bacterial agents"/ OR antibiotic*.tw. OR "anti biotic".tw. OR "anti biotics".tw. OR antimicrobial*.tw.

AND

SF-12.tw. OR PROMIS.tw. OR "MD Anderson Symptom Inventory".tw. OR EuroQol.tw. OR eortc.tw. OR QLQ-C30.tw. OR "Distress Thermometer".tw. OR "Center for Epidemiologic Studies Depression Scale".tw. OR "Cambridge Neuropsychological Test Automated Battery".tw. OR exp "Reaction Time"/ OR "Reaction Time".tw. OR exp "Concept Formation"/ OR exp Judgment/ OR exp memory/ OR memory.tw. OR exp "executive function"/ OR "executive function".tw. OR exp "problem solving"/ OR "problem solving".tw. OR exp attention/ OR "Intelligence quotient".tw. OR IQ.tw. OR exp "mental fatigue"/ OR "mental fatigue".tw. OR "brain fog".tw. OR exp "cognitive dysfunction"/ OR "cognitive dysfunction".tw. OR exp cognition/ OR cognit*.tw. OR exp "alzheimer disease"/ OR "alzheimer disease".tw. OR exp dementia/ OR dementia.tw.

AND

((exp Meta Analysis/ or ((meta adj analy\$) or metaanalys\$).tw. or (systematic adj (review\$1 or overview\$1)).tw. or cancerlit.ab. or cochrane.ab. or embase.ab. or (psychlit or psyclit).ab. or (psychinfo or psycinfo).ab. or (cinahl or cinhal).ab. or science citation index.ab. or bids.ab. or reference lists.ab. or bibliograph\$.ab. or hand-search\$.ab. or manual search\$.ab. or relevant journals.ab. or data extraction.ab. or selection criteria.ab.) and review.pt.) not ((letter.pt. or editorial.pt.) or (animal/ not (animal and human/)))

Web of Science

((TI=fecal* OR AB=fecal*) OR (TI=faecal* OR AB=faecal*) OR (TI=feces OR AB=feces) OR (TI=stool* OR AB=stool*) OR (TI=microbiom* OR AB=microbiom*) OR (TI=microbiota OR AB=microbiota) OR (TI=16s OR AB=16s) OR (TI=probiotic* OR AB=probiotic*) OR (TI=lactobacill* OR AB=lactobacill*) OR (TI="l acidophilus" OR AB="l acidophilus") OR (TI="l casei" OR AB="l casei") OR (TI=bifidobacter* OR AB=bifidobacter*) OR (TI="b infantis" OR AB="b infantis") OR (TI="b bifidum" OR AB="b bifidum") OR (TI="b longum" OR AB="b longum") OR (TI=saccharomyce* OR AB=saccharomyce*) OR (TI="s boulardii" OR AB="s boulardii") OR (TI=Clostridium OR AB=Clostridium) OR (TI=streptococ* OR AB=streptococ*) OR (TI=prebiotic* OR AB=prebiotic*) OR (TI="fecal microbiota transplantation" OR AB="fecal microbiota transplantation") OR (TI="fecal microbiota transplant" OR AB="fecal microbiota transplant") OR (TI="fecal microbial transplantation" OR AB="fecal microbial transplantation") OR (TI="fecal microbial transplant" OR AB="fecal microbial transplant") OR (TI=antibiotic* OR AB=antibiotic*) OR (TI="anti biotic" OR AB="anti biotic") OR (TI="anti biotics" OR AB="anti biotics") OR (TI=antimicrobial* OR AB=antimicrobial*))

AND

((TI=SF-12 OR AB=SF-12) OR (TI=PROMIS OR AB=PROMIS) OR (TI="MD Anderson Symptom Inventory" OR AB="MD Anderson Symptom Inventory") OR (TI=EuroQol OR AB=EuroQol) OR (TI=eortc OR AB=eortc) OR (TI=QLQ-C30 OR AB=QLQ-C30) OR (TI="Distress Thermometer" OR AB="Distress Thermometer") OR (TI="Center for Epidemiologic Studies Depression Scale" OR AB="Center for Epidemiologic Studies Depression Scale") OR (TI="Cambridge Neuropsychological Test Automated Battery" OR AB="Cambridge Neuropsychological Test Automated Battery") OR (TI="Reaction Time" OR AB="Reaction Time") OR (TI="Concept Formation" OR AB="Concept Formation") OR (TI=Judgment OR AB=Judgement) OR (TI=memory OR AB=memory) OR (TI="executive function" OR AB="executive function") OR (TI="problem solving" OR AB="problem solving") OR (TI="attention" OR AB="attention") OR (TI="Intelligence quotient" OR AB="Intelligence quotient") OR (TI=IQ OR AB=IQ) OR (TI="mental fatigue" OR AB="mental fatigue") OR (TI="brain fog" OR AB="brain fog") OR (TI="cognitive dysfunction" OR AB="cognitive dysfunction") OR (TI=cognit* OR AB=cognit*) OR (TI="alzheimer disease" OR AB="alzheimer disease") OR (TI=dementia OR AB=dementia))

AND

((TI="meta analysis" OR AB="meta analysis") OR TS="meta-analysis" OR (TI="review" OR AB="review") OR (TI=search* OR AB=search*))

Cochrane

(fecal*:ti,ab OR faecal*:ti,ab OR [mh feces] OR feces:ti,ab OR stool*:ti,ab OR microbiom*:ti,ab OR microbiota:ti,ab OR 16s:ti,ab OR [mh "gastrointestinal microbiome"] OR [mh probiotics] OR probiotic*:ti,ab OR lactobacill*:ti,ab OR [mh Lactobacillus] OR "l acidophilus":ti,ab OR "l

casei":ti,ab OR [mh Bifidobacterium] OR bifidobacter*:ti,ab OR "b infantis":ti,ab OR "b bifidum":ti,ab OR "b longum":ti,ab OR [mh Saccharomyces] OR saccharomyce*:ti,ab OR "s boulardii":ti,ab OR [mh Clostridium] OR Clostridium:ti,ab OR [mh Streptococcus] OR streptococ*:ti,ab OR prebiotic*:ti,ab OR [mh "fecal microbiota transplantation"] OR [mh "brain-gut axis"] OR "brain-gut axis":ti,ab OR [mh "anti bacterial agents"] OR antibiotic*:ti,ab OR "anti biotic":ti,ab OR "anti biotics":ti,ab OR antimicrobial*:ti,ab) AND (SF-12:ti,ab OR PROMIS:ti,ab OR "MD Anderson Symptom Inventory":ti,ab OR EuroQol:ti,ab OR eortc:ti,ab OR QLQ-C30:ti,ab OR "Distress Thermometer":ti,ab OR "Center for Epidemiologic Studies Depression Scale":ti,ab OR "Cambridge Neuropsychological Test Automated Battery":ti,ab OR [mh "Reaction Time"] OR "Reaction Time":ti,ab OR [mh "Concept Formation"] OR [mh Judgment] OR [mh memory] OR memory:ti,ab OR [mh "executive function"] OR "executive function":ti,ab OR [mh "problem solving"] OR "problem solving":ti,ab OR [mh attention] OR "Intelligence quotient":ti,ab OR IQ:ti,ab OR [mh "mental fatigue"] OR "mental fatigue":ti,ab OR "brain fog":ti,ab OR [mh "cognitive dysfunction"] OR "cognitive dysfunction":ti,ab OR [mh cognition] OR cognit*:ti,ab OR [mh "alzheimer disease"] OR "alzheimer disease":ti,ab OR [mh dementia] OR dementia:ti,ab)

Epistimonikos

((title:fecal* OR abstract:fecal*) OR (title:faecal* OR abstract:faecal*) OR (title:feces OR abstract:feces) OR (title:stool* OR abstract:stool*) OR (title:microbiom* OR abstract:microbiom*) OR (title:microbiota OR abstract:microbiota) OR (title:16s OR abstract:16s) OR (title:probiotic* OR abstract:probiotic*) OR (title:lactobacill* OR abstract:lactobacill*) OR (title:"l acidophilus" OR abstract:"l acidophilus") OR (title:"l casei" OR abstract:"l casei") OR (title:bifidobacter* OR abstract:bifidobacter*) OR (title:"b infantis" OR abstract:"b infantis") OR (title:"b bifidum" OR abstract:"b bifidum") OR (title:"b longum" OR abstract:"b longum") OR (title:saccharomyce* OR abstract:saccharomyce*) OR (title:"s boulardii" OR abstract:"s boulardii") OR (title:Clostridium OR abstract:Clostridium) OR (title:streptococ* OR abstract:streptococ*) OR (title:prebiotic* OR abstract:prebiotic*) OR (title:"fecal microbiota transplantation" OR abstract:"fecal microbiota transplantation") OR (title:"fecal microbiota transplant" OR abstract:"fecal microbiota transplantat") OR (title:"fecal microbial transplantation" OR abstract:"fecal microbial transplantation") OR (title:"fecal microbial transplant" OR abstract:"fecal microbial transplant") OR (title:antibiotic* OR abstract:antibiotic*) OR (title:"anti biotic" OR abstract:"anti biotic") OR (title:"anti biotics" OR abstract:"anti biotics") OR (title:antimicrobial* OR abstract:antimicrobial*)) AND ((title:SF-12 OR abstract:SF-12) OR (title:PROMIS OR abstract:PROMIS) OR (title:"MD Anderson Symptom Inventory" OR abstract:"MD Anderson Symptom Inventory") OR (title:EuroQol OR abstract:EuroQol) OR (title:eortc OR abstract:eortc) OR (title:QLQ-C30 OR abstract:QLQ-C30) OR (title:"Distress Thermometer" OR abstract:"Distress Thermometer") OR (title:"Center for Epidemiologic Studies Depression Scale" OR abstract:"Center for Epidemiologic Studies Depression Scale") OR (title:"Cambridge Neuropsychological Test Automated Battery" OR abstract:"Cambridge Neuropsychological Test Automated Battery") OR (title:"Reaction Time" OR abstract:"Reaction Time") OR (title:"Concept Formation" OR abstract:"Concept Formation") OR (title:Judgment OR abstract:Judgement) OR (title:memory OR abstract:memory) OR (title:"executive function" OR abstract:"executive function") OR (title:"problem solving" OR abstract:"problem solving") OR (title:"attention" OR abstract:"attention") OR (title:"Intelligence quotient" OR abstract:"Intelligence quotient") OR (title:IQ OR abstract:IQ) OR (title:"mental fatigue" OR abstract:"mental fatigue") OR (title:"brain fog" OR abstract:"brain fog") OR (title:"cognitive dysfunction" OR abstract:"cognitive dysfunction") OR (title:cognit* OR abstract:cognit*) OR (title:"alzheimer disease" OR abstract:"alzheimer disease") OR (title:dementia OR abstract:dementia))

Google Scholar

(stool OR microbiome OR 16s OR probiotic OR fecal microbial transplant OR FMT OR antibiotic) AND (cognition OR memory OR mental fatigue OR brain fog OR Alzheimer OR dementia) AND systematic review