PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

Manuscript NO: 64869

Title: Microbiota shaping – the effects of probiotics, prebiotics and fecal microbiota transplant on cognitive functions: A systematic review

Reviewer's code: 05232520

Position: Editorial Board

Academic degree: BSc, MSc, PhD

Professional title: Professor, Research Scientist

Reviewer's Country/Territory: Brazil

Author's Country/Territory: Italy

Manuscript submission date: 2021-02-25

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-02-25 11:56

Reviewer performed review: 2021-03-11 19:17

Review time: 14 Days and 7 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [Y] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous Conflicts-of-Interest: [ ] Yes [Y] No

1

SPECIFIC COMMENTS TO AUTHORS

The manuscript submitted by Baldi and cols., aims to review the role of gut microbiota modulation by different approaches and its effects on cognitive functions. However, before a final decision is made, some aspects must be addressed. Major concerns: • Authors must clarify if the review refers to cognitive disorders (in general) or specifically about dementia. • In introduction, authors stated that "…the administration in animal models of an adequate posology of multistrain probiotics reduced both Firmicutes/Bacteroidetes ratio and the intestinal permeability…", however, there are some clinical trials addressing the role of such approach in gut microbiota modulation. • In page 11, please clarify FMT studies T? • As Lactococcus spp may also be used as probiotics in different contexts, the species of microorganisms used in the review must be written with their full names by the first time they are cited in the text • Authors must describe the putative mechanisms used by probiotics to modulate the activity of central nervous system • In its current form the manuscript is merely descriptive. The text lacks a more in-depth discussion concerning pros and cons of using microbial modulation to treat or constrain the development of cognitive disorders • Authors must describe the limitations of each approach highlighting the concerns regarding the use of live microorganisms (probiotics and FMT) in targeted populations, including immunossupressed and the risk of FMT in the transmission of pathogenic multi-resistant bacteria. Minor concerns: • There are several typos throughout the text. E.g. "synbiotics" ; "week" – page 11 • Please, replace the word "flora" by "microbiota" • "mL" rather than "ml"

PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

Manuscript NO: 64869

Title: Microbiota shaping – the effects of probiotics, prebiotics and fecal microbiota transplant on cognitive functions: A systematic review

Reviewer's code: 03061187

Position: Peer Reviewer

Academic degree: PhD

Professional title: Professor

Reviewer's Country/Territory: Mexico

Author's Country/Territory: Italy

Manuscript submission date: 2021-02-25

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-03-01 17:03

Reviewer performed review: 2021-03-12 07:01

Review time: 10 Days and 13 Hours

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer statements	Peer-Review: [ ] Anonymous [Y] Onymous Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The text entitled "Microbiota shaping: the effects of probiotics, prebiotics and fecal microbiota transplants on cognitive functions. A systematic review" is a nice work prepared by methodic review of the state-of-the-art of important cognitive disorders and its possible treatment by modification of the gut microbiota through the administration of probiotics, prebiotics, synbiotics or even fecal microbiota transplants. The information is clearly presented by the authors, updating the knowledge to the reader in this field of knowledge. Without decreasing the importance of this work, to the eyes of this reviewer, the work lacks interesting information about the use of nutritional interventions used similarly to treat deficiencies in the cognitive functions. There are some suggestions to improve the work, made directly to the reviewed text (attached: ca857959-9f4c-4ea4-a2f0-c597d4071f70\20210312_64869-Manuscript File-reviewed.pdf) which are highlighted in magenta color.

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [Y] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Simone Baldi and colleagues inspect the RCT research reports to review the influences of gut microbiota interventions including probiotics, prebiotics, and FMT on cognitive functions. This PRISMA study is very meaningful for the better understanding about gut-brain axis and useful for the pathogenesis study relate to dementia and other brain diseases. This study overall is of good quality and of interest to the journal's audience. Minor comments, The differential effects caused by the different gut microbiota intervention methods needs to be compared strictly in RESULTS. The details of the mechanism in these reports need more in-depth analysis and summary. The uncertainties and risks associated with microbiota intervention, especially FMT, need to be analysed and discussed.

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good
	[ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing
	[ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [Y] Accept (General priority)
	[ ] Minor revision [ ] Major revision [ ] Rejection
Peer-reviewer statements	Peer-Review: [ ] Anonymous [Y] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The authors have satisfactorily responded to all my questions