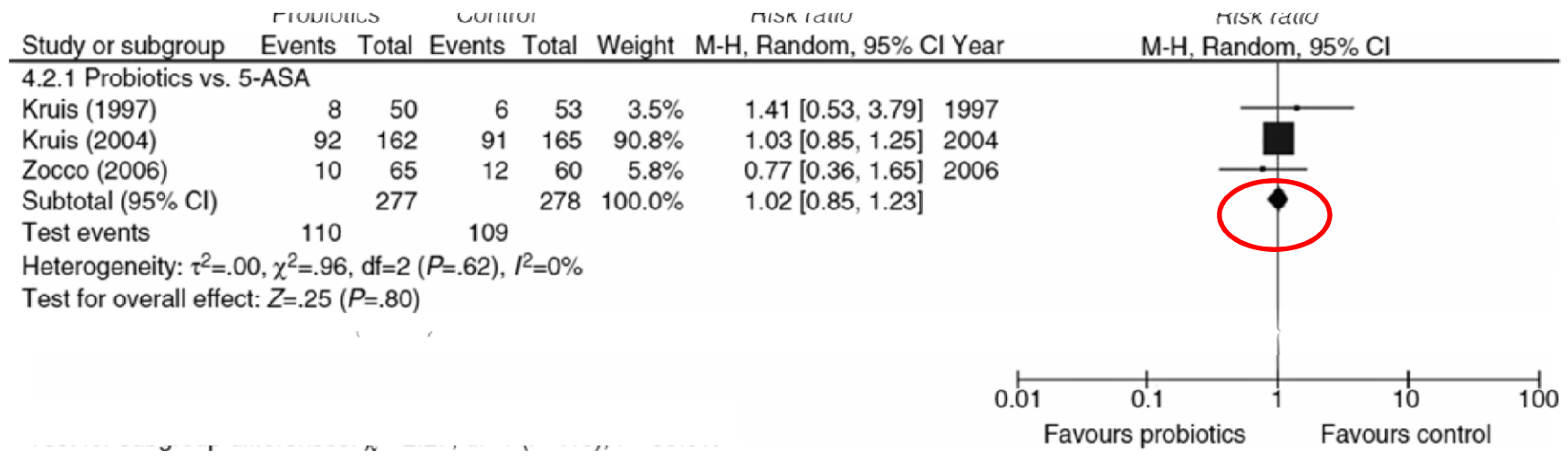




Derwa Y. Aliment Pharmacol Ther. 2017

- Efficacia dei probiotici, come singola terapia vs 5-ASA, nel mantenere la remissione nei pazienti con RCU
- Nessuna efficacia nel M. di Chron (induzione e mantenimento della remissione)

Infezioni respiratorie acute



**Cochrane
Library**

Cochrane Database of Systematic Reviews

Probiotics for preventing acute upper respiratory tract infections (Review)

Hao Q, Dong BR, Wu T

2015

- 13 studi clinici (3720 partecipanti, adulti e bambini)
- Probiotici (singoli o in associazioni) per almeno 1 settimana a dosi variabili (nella maggior parte dei casi 10^9 - 10^{10} CFU/die)

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No. of participants (studies)	Quality of the evidence (GRADE)
	Assumed risk	Corresponding risk			
	Control	ITT analysis: probiotics versus placebo - primary outcome measures			
The number of participants who experienced URTI episodes: at least 1 event	Study population		OR 0.53 (0.37 to 0.76)	1927 (7 trials)	⊕⊕○○ low ^{1,2}
	306 per 1000	189 per 1000 (140 to 251)			

- 47%

Riduzione del numero di persone con almeno 1 episodio

The mean duration of an episode of URTIs	The mean duration of an episode of URTI in the intervention groups was 1.89 lower (2.03 to 1.75 lower)	831 (3 trials)	⊕⊕○○ Low ^{1,3}
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- 1.89 gg

Riduzione della durata dell'episodio acuto

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No. of participants (studies)	Quality of the evidence (GRADE)
	Assumed risk	Corresponding risk			
	Control	Probiotics			
Time off from childcare centre, school or work	Study population 350 per 1000	51 per 1000 (11 to 202)	OR 0.10 (0.02 to 0.47)	80 (1 study)	⊕○○○ very low ^{1,2}

- 90%

Riduzione delle assenze scolastiche

Prescribed antibiotics for acute URTIs	Study population	RR 0.65 (0.45 to 0.94)	1184 (4 trials)	⊕⊕⊕○ moderate ¹
	98 per 1000 64 per 1000 (44 to 92)			

- 35%

Riduzione dell'utilizzo di antibiotici

AUTHORS' CONCLUSIONS

Implications for practice

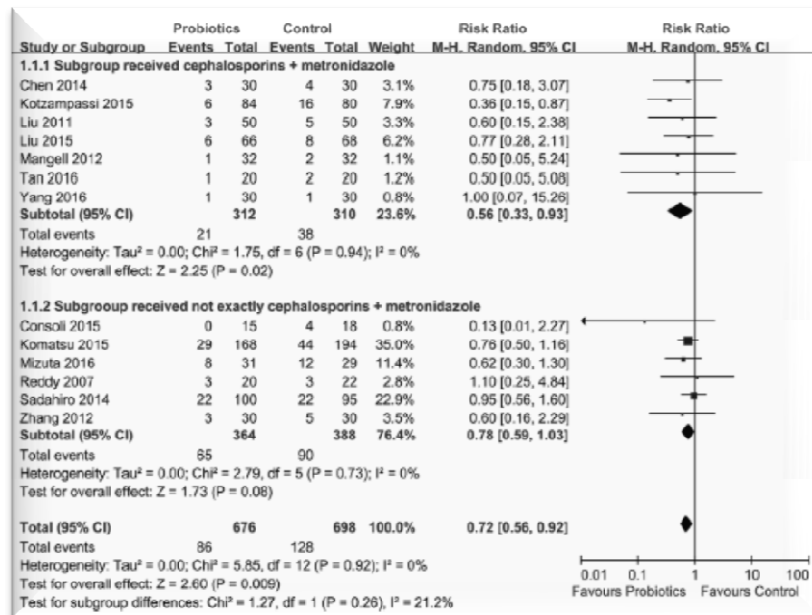
Although this review indicates that probiotics may be more beneficial than placebo for preventing acute URTIs, the quality of the current evidence is low.

Prospettive future ed
aree di ricerca

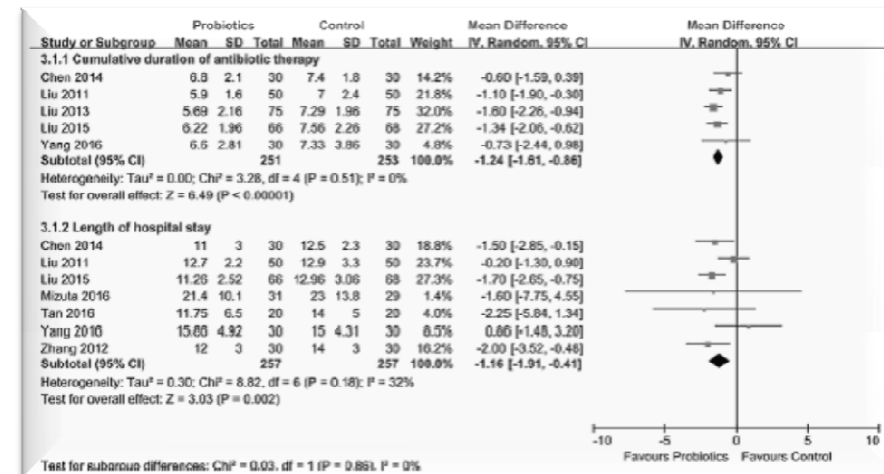
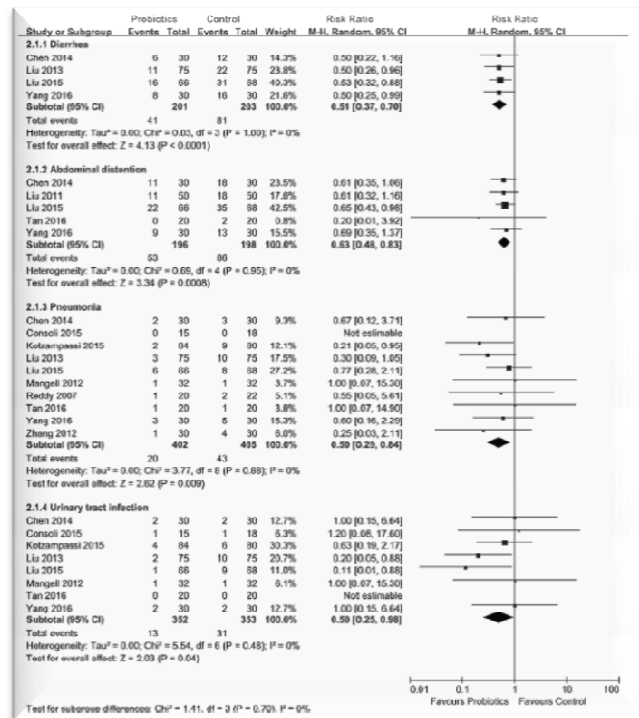
Chirurgia

Efficacy of prophylactic probiotics in combination with antibiotics versus antibiotics alone for colorectal surgery: A meta-analysis of randomized controlled trials

Wu XD. *J Surg Oncol.* 2018



- *Infezioni del sito chirurgico: -28%*



- *Durata terapia antibiotica: - 1.24 gg (p < 0.0001)*
- *Durata degenza: - 1.16 gg (p = 0.002)*

- *Diarrhea: -49%*
- *Distensione addominale: -37%*
- *Polmonite: -50%*
- *Infezione vie urinarie: -50%*

Conclusions

... probiotics could be encouraged as a promising adjunct synergist to antibiotics for colorectal surgery.

Dermatite atopica

REVIEW

Open Access



Prevention of food and airway allergy: consensus of the Italian Society of Preventive and Social Paediatrics, the Italian Society of Paediatric Allergy and Immunology, and Italian Society of Pediatrics

di Mauro G. World Allergy Organization Journal 2016

Recommendation: *supplementation with probiotics*

The administration of probiotics to the mother during pregnancy and/or after delivery, and in together with their child during the first 6 months of life, **can be considered** as an intervention for the prevention of **atopic dermatitis**. The effect is moderate but constant across studies available in the literature.

Infezioni urogenitali

Probiotics for Treatment and Prevention of Urogenital Infections in Women: A Systematic Review

Lisa Hanson, CNM, PhD, Leona VandeVusse, CNM, PhD, Martha Jermé, RN, MSN, MLIS, Cybéle L. Abad, MD, Nasia Safdar, MD, PhD

Journal of Midwifery & Women's Health 2016

- Probiotic ***lactobacilli*** are commonly used choices for treating and preventing urogynecologic infections.
- Although clinical practice recommendations were limited by the strength of evidence, probiotic interventions appear to be **effective in treatment and prevention of urogenital infections as an alternative or co-treatment.**

Diabete gestazionale

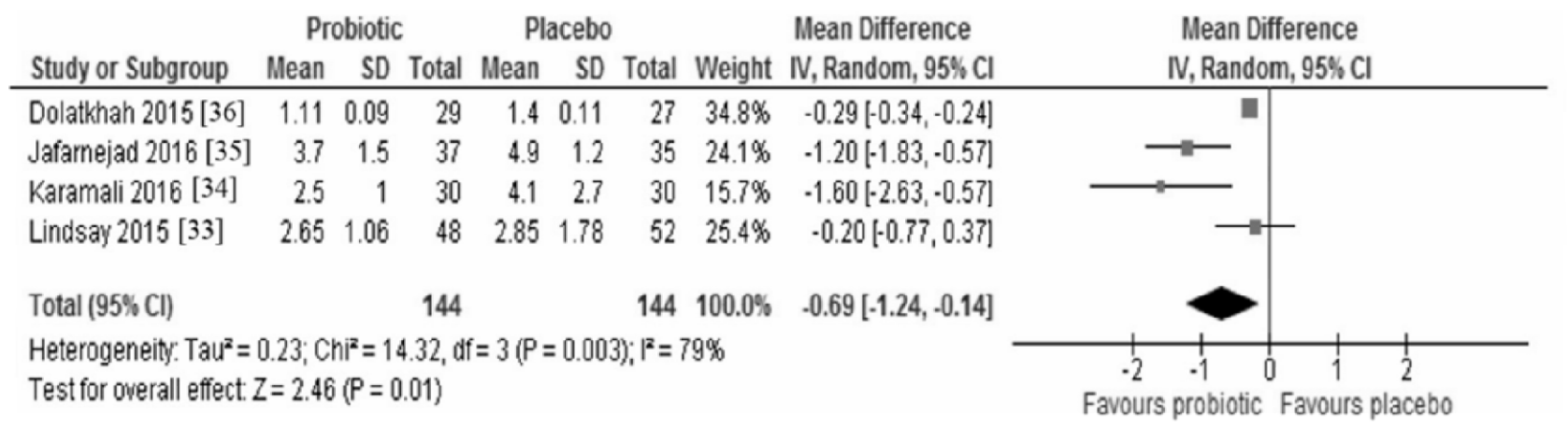
Review

Effect of Probiotics on Metabolic Outcomes in Pregnant Women with Gestational Diabetes: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

Taylor BL. Nutrients 2017

- Four high quality RCTs were included in the review.
- Probiotic composition varied between studies, but **all trials provided *Lactobacillus spp.*, and three provided *Bifidobacterium spp.***

Diabete gestazionale



Riduzione dell'insulino-resistenza (indice HOMA)

- *The use of probiotic supplementation is **promising** as a potential therapy to assist in the metabolic management of GDM.*
- *Further **high quality studies using defined doses of specific bacterial species are required** to confirm these findings and their clinical relevance before their routine use can be recommended in this patient group*

Ipercolesterolemia

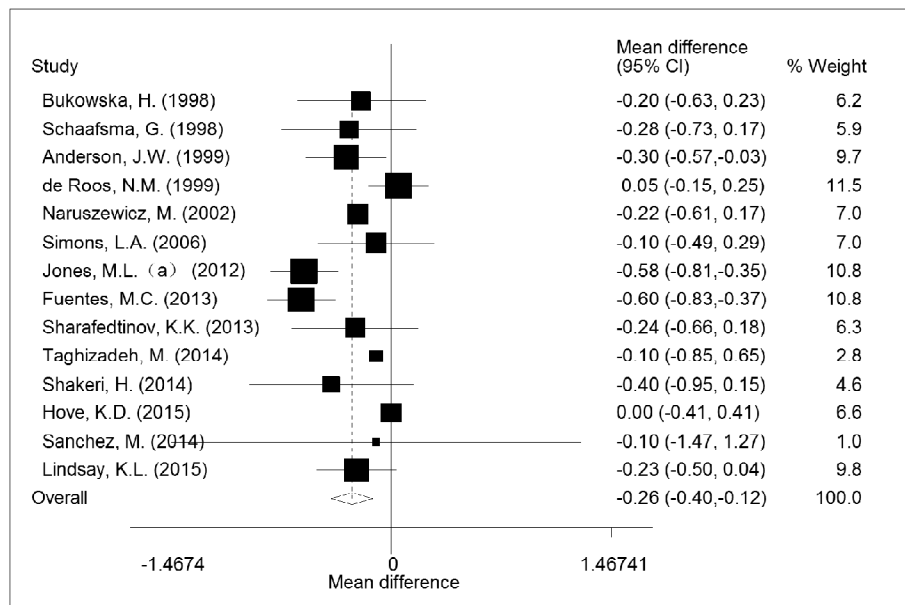
RESEARCH ARTICLE

Effect of probiotic *Lactobacillus* on lipid profile: A systematic review and meta-analysis of randomized, controlled trials

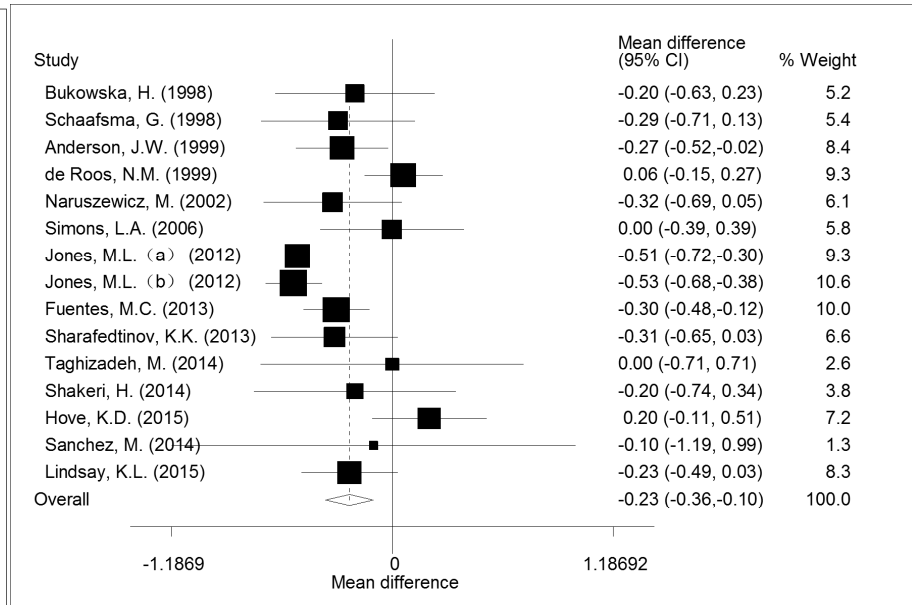
Yucheng Wu¹, Qingqing Zhang², Yin Ren¹, Zhongbao Ruan^{1*}

PLoS ONE 2017

- Fifteen studies, with 976 subjects in all, were included in this meta-analysis.
- The total daily dose changed from 10^7 to 10^{11} colony-forming units.
- The duration changed from 3 to 24 weeks.



Colesterolo totale:
- 0.26 mmol/L (10 mg/dL)



Colesterolo LDL:
- 0.23 mmol/L (9 mg/dL)

Conclusion

This meta-analysis showed that consumption of probiotic *Lactobacillus*, especially *L. reuteri* and *L. plantarum*, could reduce TC and LDL-C significantly.

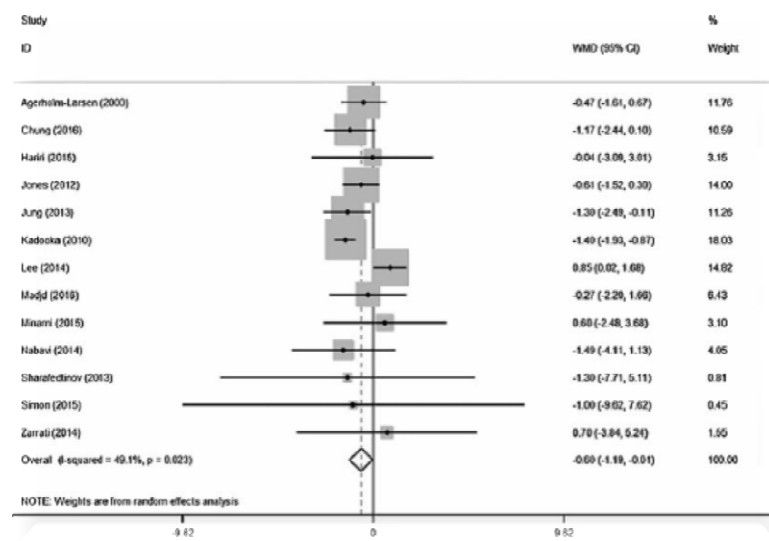
Obesità

Effects of probiotics on body weight, body mass index, fat mass and fat percentage in subjects with overweight or obesity: a systematic review and meta-analysis of randomized controlled trials

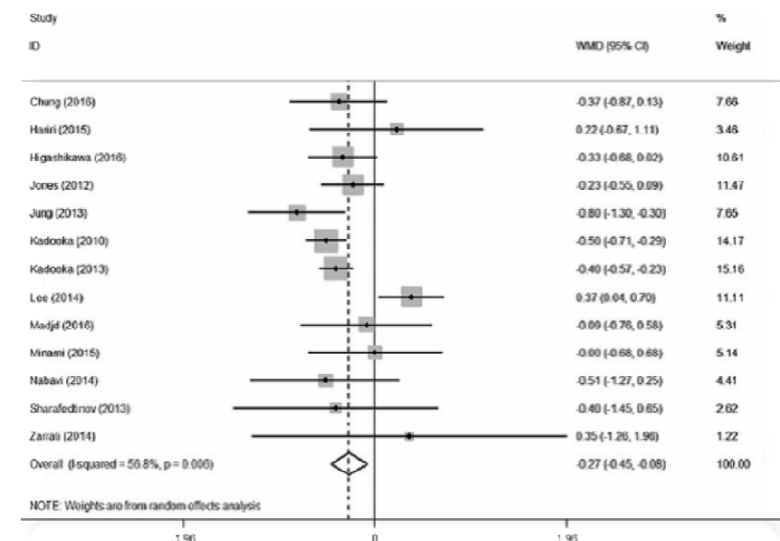
H. Borgeraas¹, L. K. Johnson¹, J. Skattebu², J. K. Hertel¹ and J. Hjeltnes^{1,3}

Obesity Reviews 2018

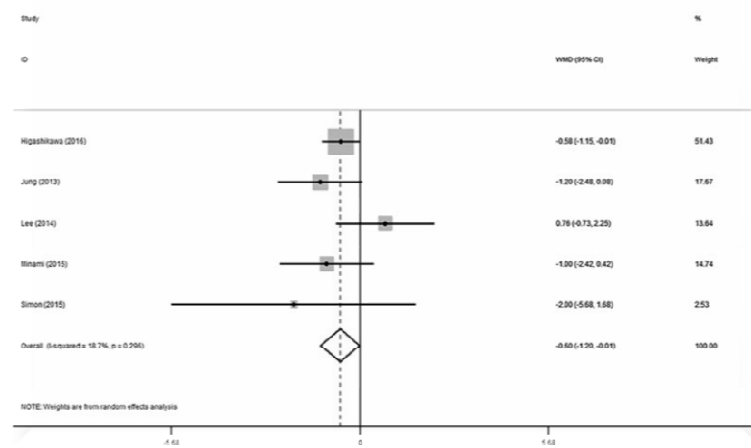
- 15 studies
- 957 subjects (63% women) with the mean BMI being 27.6 kg m²
- Two-thirds (n = 10) of the studies included one single species of probiotics, while the remaining studies (n = 5) included two or multiple species of probiotics.
- Probiotics were supplemented in food such as yoghurt (n = 5), fermented milk (n = 2), cheese (n = 1), soy milk (n = 1) and capsules (n = 5) or powder (n = 1).
- The daily doses of probiotics varied between 1.0×10^9 and 4.8×10^{11} colony forming units (CFU), and the duration of the trials ranged from 3 to 12 weeks



Peso (Kg)



BMI



% massa grassa

Conclusions

Our meta-analysis showed that short-term (≤ 12 weeks) **probiotic supplementation reduced body weight, BMI and fat percentage, but the effect sizes were small**. Accordingly, further long-term studies are required to examine the effects of probiotic supplementation on various measures on body weight.

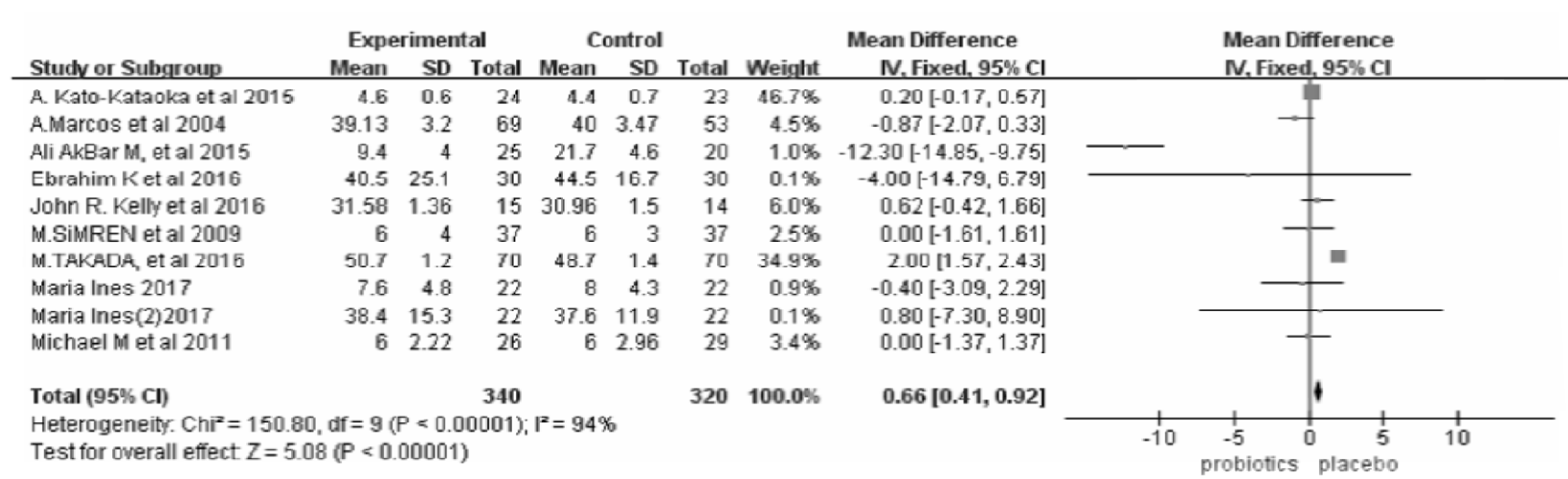
Ansia

Efficacy of Probiotics on Anxiety: A Meta-analysis of Randomized Controlled Trials

Ruixue Huang¹, Huacheng Ning¹, Lifen Yang², Chunlan Jia², Fang Yang³, Guozhang Xu^{4,†}, Hongzhuan Tan^{3,†}

Neuropsychiatry 2017

- 10 studi
- Soggetti sani, studenti di medicina pre-esami, colon irritabile, sclerosi multipla, lavoratori industria petrochimica
- 5 studi con 1 probiotico, 5 studi con almeno 2 probiotici
- Dose da 1.0×10^7 a 2×10^{10} CFU
- Durata da 3 a 10 settimane



Riduzione dell'ansia (scale STAI, HADS, DASS)

Conclusions:

Our report showed that **probiotics decrease anxiety** values in populations with anxiety. These results are important for the management of anxiety. In the future, **more adequately powered RCTs** using standardized measurements are required to assess the specific probiotics and dosages as well as the treatment periods that are most beneficial for anxiety.

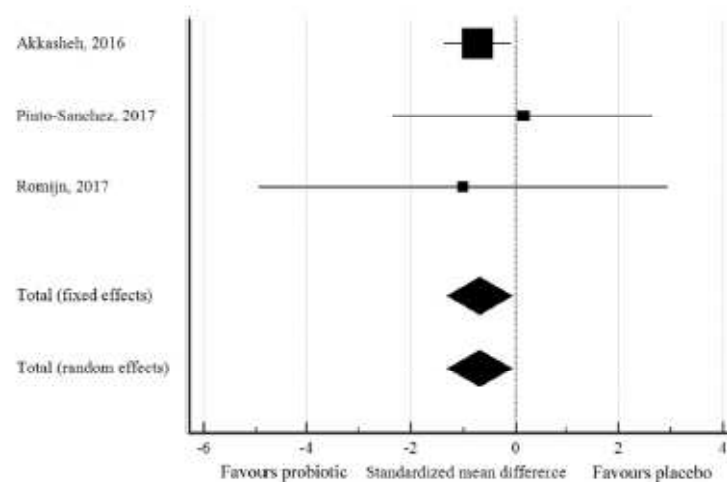
Depressione

Review article

A meta-analysis of the use of probiotics to alleviate depressive symptoms

Qin Xiang Ng^{a,*}, Christina Peters^b, Collin Yih Xian Ho^c, Donovan Yutong Lim^d, Wee-Song Yeo^{c,e}

Journal of Affective Disorders 2018



- A meta-analysis of **10 randomized controlled trials** found that probiotic supplementation had overall insignificant effects on mood.
- It was found that probiotic supplementation produced significant **improvements** in the moods of individuals with **mild-moderate depressive symptoms**

Take Home Messages



- I probiotici prevengono la **diarrea associata agli antibiotici**
- I probiotici sono efficaci nel ridurre la frequenza della **diarrea da *Clostridium difficile***
- Alcuni probiotici sono efficaci nel ridurre gli **effetti collaterali** della terapia antibiotica utilizzata per eradicare l'***Helicobacter pylori***
- Alcuni probiotici possono avere effetti benefici sull'**eradicazione dell'*Helicobacter pylori***
- Combinazioni di probiotici sono efficaci nel ridurre i sintomi del **colon irritabile**
- Alcuni probiotici, in aggiunta alla terapia standard, sono efficaci nell'indurre la remissione nella **RCU**
- I probiotici, come singola terapia, sono efficaci nel mantenere la remissione nella **RCU**
- I probiotici possono essere efficaci nella prevenzione delle **infezioni acute delle vie aeree superiori**

Il futuro: Medicina di precisione

