

Supplementary Data

The influence of β -alanine supplementation on recovery biomarkers in adults: A systematic review and meta-analysis

Mahsa Mahmoudinezhad¹, Meysam Zarezadeh^{1,2*}, Fatemeh Pourteymour Fard Tabrizi³, Parsa Jamilian⁴, Parmida Jamilian⁵, Alireza Ostadrahimi²

¹ Student Research Committee, Tabriz University of Medical Sciences, Tabriz, Iran

² Nutrition Research Center, Department of Clinical Nutrition, School of Nutrition and Food Science, Tabriz University of Medical Sciences, Tabriz, Iran.

³ School of Nutrition and Food Sciences, Tabriz University of Medical Sciences, Tabriz, Iran.

⁴ Keele Medical School, Keele University, Staffordshire, UK.

⁵ School of Pharmacy and Bio Engineering, Keele University, Staffordshire, UK.

Corresponding authors:

*Alireza Ostadrahimi

Professor of Clinical Nutrition

School of Nutrition and Food Sciences

Address: Attar-Neishaburi St., Golgasht Alley, Azadi Blvd., Tabriz, Iran.

Fax Number: +984133340634

Phone Number: +989143135845

Email: ostadrahimi@tbzmed.ac.ir

**Meysam Zarezadeh

Ph.D. of Nutritional Sciences

School of Nutrition and Food Sciences

Tabriz University of Medical Sciences

Address: Attar-Neishaburi St., Golgasht Alley, Azadi Blvd., Tabriz, Iran.

Fax Number: +984133340634

Phone Number: +989143319531

Email: Meysam.za93@gmail.com

Table S1: Summary of findings and quality of evidence assessment using the GRADE approach

Outcome measure	Summary of findings		Quality of evidence assessment (GRADE)					
	No of patients	Effect size* (95% CI)	Risk of bias ^a	Inconsistency ^b	Indirectness ^c	Imprecision ^d	Publication bias ^e	Quality of evidence ^f
Anthropometric measures								
Lactate	365	0.22 (-0.17, 0.61)	Not Serious	Serious	Not Serious	Serious	Not Serious	Low
VO ₂	84	-0.12 (-0.52, 0.29)	Not Serious	Not Serious	Not Serious	Serious	Not Serious	Moderate
Carnosine	115	1.53 (1.08, 1.98)	Not Serious	Not Serious	Not Serious	Serious	Serious	Low
PH	67	-0.31 (-0.82, 0.20)	Not Serious	Not Serious	Not Serious	Serious	Serious	Low
fatigue	75	-0.71 (-2.48, 1.05)	Not Serious	Serious	Not Serious	Serious	Not Serious	Low
HCO ₃ ⁻	39	-0.33 (-0.85, 0.19)	Not Serious	Not Serious	Not Serious	Serious	Not Serious	Moderate

BMI= body mass index; WC= waist circumference.

^a Risk of bias based on the AMSTAR results.

^b Downgraded if there was a substantial unexplained heterogeneity ($I^2 > 50\%$, $P < 0.10$) that was unexplained by meta-regression or subgroup analyses.

^c Downgraded if there were factors present relating to the participants, interventions, or outcomes that limited the generalizability of the results.

^d Downgraded if the 95% confidence interval (95% CI) crossed the minimally important difference (MID) for benefit or harm.

^e Downgraded if there was an evidence of publication bias using funnel plot.

^f Since all included studies were meta-analyses of randomized clinical trials, the certainty of the evidence was graded as high for all outcomes by default and then downgraded based on prespecified criteria. Quality was graded as high, moderate, low, very low.