Authors

New Submission

Submitted Manuscripts

Co-author Manuscripts

Reviewers

Volunteer Application

Manuscript No.FBL15317 - Accept in Current Form

Manuscript Information ∧

Journal	FBL
Article Type	Systematic Review
Article Title	Effect of L-carnosine in patients with age-related diseases: A systematic review and meta-analysis
Section	--
Special Issue	--

Abstract	Introduction: L-carnosine has been found to have multimodal activity. Aim: The aim of this review was to find out the efficacy of L-carnosine in patients with age-related diseases. Methods: Clinical studies evaluated the effect of L-carnosine on cancer, cardiovascular disease, diabetes, and neurodegenerative disorders were searched in electronic bibliographic databases. The protocol has been registered with PROSPERO (CRD42022314033). The revised Cochrane risk of bias tool for randomized trials was used to assess all of the reports for risk of bias. RevMan 5.4 was used to conduct the meta-analysis. Results: Following the screening process, 14 papers were selected for systematic review, with 9 of them being qualified for meta-analysis. Many of the included studies showed that L-carnosine has potential therapeutic activity in age related diseases. Results from the meta-analysis showed that in diabetes mellitus, HbA1c [MD 95% CI= -1.25 (-2.49, -0.022); p=0.05; P=0.001; I2=85%] and FBS [MD 95% CI= -12.44 (-22.44, -2.44); p=0.01; P=0.40; I2=0%] and in neurodegenerative disorder, WMS-LM2 [MD 95% CI= 1.34 (0.83, 1.85); p<0.00001; P=0.43; I2=0%], showed statistically significant difference, favoring the L-carnosine group over the control group. While in neurodegenerative disorder, ADAS [MD 95% CI= 0.98 (-1.55, -0.42); p=0.0007; P=0.86; I2=0%] and BDI [MD 95% CI= -1.12 (-1.87, -0.37); p=0.003; P=0.73; I2=0%] showed statistically significant difference, favoring the control group over L-carnosine group. Conclusion: Clinical studies were conducted to manage chemotherapy induced toxicities and there are no clinical studies available for its anti-cancer use, and the current evidence does not support its use in the treatment of cardiovascular disease.

Keywords	Alzheimer's disease;amino acid;cancer;diabetes;cardiovascular diseases;neurological diseases
Funding	--
Discount	--

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Manuscript Files ∧

Cover Letter	FBL15317-Cover letter-V3.docx ⟳
Manuscript (Word/ZIP)	FBL15317-Manuscript (Word/ZIP)-V3.docx ⟳
Supplementary Material	FBL15317-Supplementary File-V2.docx ⟳

Suggested & Opposed Reviewers ∧

Suggest Reviewer	Tan Siang (tcsiang@kpjuc.edu.my) KPJ HEALTHCARE UNIVERSITY COLLEGE
	Kah Lee (ksl.pharm@gmail.com)

Help us improve by sharing your feedback.

IMR Press

Academic Editor Decision ⌃

Comments to Author

No notes or comments.

Reviewer(s) Decision ⌃

Reviewer 1   Reviewer 2

Report 1 ⌃

Comments to Author

The submitted manuscript concerns the investigation of L-carnosine in patients with age-related diseases. Carnosine can be used in treating neurodegenerative diseases, cancer, diabetes, or schizophrenia, although their usage is limited. The authors conclude that to establish the therapeutic potential of L-carnosine in various age-related disorders, more randomized controlled trials with larger sample size are needed. This review is of interest to medicine.

Comments:

- Gulevitsch or Gulewitsch (Introduction)
- L – smaller font, standardize spelling in the text
- not β-alanine L-histidine only β-alanine-L-histidine
- alzheimer's or Alzheimer's (page 9)
- interlekin or interleukin, standardize spelling in the text
- Ions or ions (Fig. 6)
- severe xerosis?
- chemotherapy-induced peripheral neuropathy (CPIN) or CIPN
- in my opinion some drawings can be included in the Supplement, e.g, Fig. 5
- item 11 (References) to give DOI 10.3389/fonc.2022.731223
- not N-methyl-D-aspartate only N-methyl-D-aspartate; N – italic; D – smaller font
- may be worth adding a review article in Chem Res Toxicol 2020;33:1561−1578.

Author Response to Report

Dear reviewer,

We would like to thank you for your careful and thorough reading of this manuscript as well as for the thoughtful comments and constructive suggestions, which help to improve the quality of this manuscript. We have carefully edited the manuscript according to your inputs. We truly hope that the revised manuscript is clear to follow. The response and amendment for each comment are as attached.

Author Response File

Response to comments.docx ⟳

Report 2 ⌃

Comments to Author

The manuscript has been corrected. Item [89], surnames and first names of the authors still need to be corrected i the literature.

Author Response to Report

REVIEWER 1

The manuscript has been corrected. Item [89], surnames and first names of the authors still need to be corrected i the literature.

Reply: We have changed the citation now. Thanks

Help us improve by sharing your feedback.

Comments	Response
Reviewer 1	
The submitted manuscript concerns the investigation of L-carnosine in patients with age-related diseases. Carnosine can be used in treating neurodegenerative diseases, cancer, diabetes, or schizophrenia, although their usage is limited. The authors conclude that to establish the therapeutic potential of L-carnosine in various age-related disorders, more randomized controlled trials with larger sample size are needed. This review is of interest to medicine.	Thank you very much
- Gulevitsch or Gulewitsch (Introduction)	It is Gulevitsch. Checked once again.
- L – smaller font, standardize spelling in the text	Changes are made as suggested
- not β-alanine L-histidine only β-alanine-L-histidine	Changes are made as suggested
- alzheimer's or Alzheimer's (page 9)	Changes are made as suggested
- interlekin or interleukin, standardize spelling in the text	Changes are made as suggested
- lons or ions (Fig. 6)	Changes are made as suggested
- severe xerosis?	Yes, Reference No. 33

- chemotherapy-induced peripheral neuropathy (CPIN) or CIPN	Changes are made as suggested
- in my opinion some drawings can be included in the Supplement, e.g, Fig. 5	As Figure 5 is depicting the important findings of the study, we thought of representing it, in the main figure rather than supplementary file.
- item 11 (References) to give DOI 10.3389/fonc.2022.731223	DOI of Reference 11 is https://doi.org/10.3389/fonc.2022.731223
- not N-methyl-D-aspartate only N-methyl-D-aspartate; N – italic; D – smaller font	Changes are made as suggested
- may be worth adding a review article in Chem Res Toxicol 2020;33:1561−1578.	Incorporated as suggested (Reference 89)

Chrismawan Ardianto
IMR Press

A

Authors

New Submission

Submitted Manuscripts

Co-author Manuscripts

Reviewers

Volunteer Application

Academic Editor Decision ⌃

Comments to Author

No notes or comments.

Reviewer(s) Decision ⌃

Reviewer 1   Reviewer 2

Report 1 ⌃

Comments to Author

The work " Effect of L-carnosine in patients with age-related diseases: A systematic review and meta-analysis" is a systematic review whose aim is to compare and analyze the effectiveness of some treatments with carnosine for several age-related diseases. The topic of the review is more interesting and I think that this paper is suitable.
In particular
-I would ask the authors why they have not used additional keywords in the search, such as alternative names of carnosine [(2-(3- aminopropanoylamino)-3-(3H-imidazol-4-yl)propanoic acid)] and its zinc complex as Polaprezinc. Can probably these keywords allow to find more results for meta-analysis?
-I suggest to insert additional references in the introduction about multifunctional role of carnosine (Amino Acids 2011;43(1):153-63; Antioxidants 2022, 11(5), 848;) and about polaprezinc as supplement in anticancer therapy (Biomedicine & Pharmacotherapy ,2022,151, 113157)
-I suggest to revise the discussion, focusing of the efficiency of carnosine and summarizing the results of meta-analysis in function of selected factors (gender,age, treatment duration)
-Move Figure 6 and insert the reference in the introduction.

Author Response to Report

Dear reviewer,

We would like to thank you for your careful and thorough reading of this manuscript as well as for the thoughtful comments and constructive suggestions, which help to improve the quality of this manuscript. We have carefully edited the manuscript according to your inputs. We truly hope that the revised manuscript is clear to follow. The response and amendment for each comment are as attached

Author Response File

Response to comment REVIEWER 2.docx ⌽

Report 2 ⌃

Comments to Author

The revised manuscript version is now suitable for publication and I think the authors have improved the final discussion according to the indications.

Author Response to Report

REVIEWER 2

The revised manuscript version is now suitable for publication and I think the authors have improved the final discussion according to the indications.

Reply: Thank you for your kind endorsement. We really appreciate it.

Help us improve by sharing your feedback.

Comments	Response
Reviewer 2	
The work " Effect of L-carnosine in patients with age-related diseases: A systematic review and meta-analysis" is a systematic review whose aim is to compare and analyze the effectiveness of some treatments with carnosine for several age-related diseases. The topic of the review is more interesting and I think that this paper is suitable.	Thank you very much
In particular -I would ask the authors why they have not used additional keywords in the search, such as alternative names of carnosine [(2-(3-aminopropanoylamino)-3-(3H-imidazol-4-yl) propanoic acid)] and its zinc complex as Polaprezinc. Can probably these keywords allow to find more results for meta-analysis?	We agree with your suggested key words. As a clinical pharmacists, we are not much familiar with the chemical or IUPAC name of l-carnosine, rather we searched using other terms which is more often used. Though we have not searched using alternative names of carnosine, we believe that we did not miss any clinical studies conducted in the topic of interest. Suggested keywords are included in this manuscript below the abstract as key words
-I suggest to insert additional references in the introduction about multifunctional role of carnosine (Amino Acids 2011;43(1):153-63; Antioxidants 2022, 11(5), 848;) and about polaprezinc as supplement in anticancer therapy (Biomedicine & Pharmacotherapy, 2022, 151, 113157)	Incorporated as suggested (Reference No. 4, 6 and 37).

-I suggest to revise the discussion, focusing of the efficiency of carnosine and summarizing the results of meta-analysis in function of selected factors (gender, age, treatment duration)	Appropriate changes are made
-Move Figure 6 and insert the reference in the introduction.	Changes are made in Figure 6 as suggested by other reviewer.