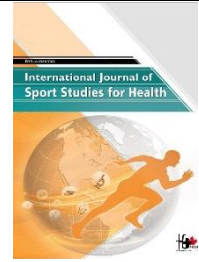







# International Journal of Sport Studies for Health

Journal Homepage



## Exploring the Impact of Functional Exercise Rehabilitation on Neuroplastic Biomarker Changes in Cardiovascular Disorders

Armin. Gorouhi<sup>1\*</sup>, Adebayo. Clement Olaide<sup>2</sup>, Daniel. López-López<sup>1</sup>, Fernando. Iellamo<sup>3</sup>, Hadi. Nobari<sup>4</sup>




<sup>1</sup> Department of Health Sciences, Faculty of Nursing and Podiatry, Industrial Campus of Ferrol, University of A Coruna, Spain

<sup>2</sup> School of Public Health, Imperial College of London, England

<sup>3</sup> Department of Clinical Sciences and Translational Medicine, Tor Vergata University, Rome, Italy

<sup>4</sup> LFE Research Group, Department of Health and Human Performance, Faculty of Physical Activity and Sport Science (INEF), Universidad Politécnica de Madrid, Madrid, Spain

\* Corresponding author email address: armingorouhi@gmail.com

Editor	Reviewers
<p>Pantelis Theo Nikolaidis School of Health and Caring Sciences, University of West Attica, Athens, Greece l.youzbashi@znu.ac.ir</p>	<p><b>Reviewer 1:</b> Masoud Mirmoezi Department of Physical Education and Sport Sciences, Islamic Azad University, Central Tehran Branch, Tehran, Iran. Email: massoudmirmoezi@live.com</p> <p><b>Reviewer 2:</b> Farhad Namjoo Department of Psychology and Counseling, KMAN Research Institute, Richmond Hill, Ontario, Canada. Email: farhadnamjoo@kmanresce.ca</p>

### 1. Round 1

#### 1.1 Reviewer 1

Reviewer:

The phrase “we embark on a journey through the scientific landscape” introduces an informal tone not appropriate for a scientific journal. Replace with an objective phrase such as “this review systematically examines the literature on...”.

The sentence “BDNF is recognized as a key biomarker that indirectly influences cardiac function...” should specify the pathways (e.g., via the vagus nerve or HPA axis) and cite more than one supporting study.

There is no citation for the classification into “aerobic”, “combined”, and “balance and strength” categories. Provide a reference or theoretical framework supporting this typology.

Ensure all key findings are presented with a consistent level of detail. For example, under “Balance and Strength Training,” cite specific neural regions affected as done in other sections.

The reference “(6)” is overused and lacks specificity. Provide a more recent or directly relevant source discussing BDNF elevation from aerobic exercise in cardiovascular patients.

The sentence “Ploughman findings suggest...” is overly vague. Include the sample size, population characteristics (e.g., stroke severity), and intervention duration to support generalizability.

The correlation between “cortical thickness changes in the precentral gyrus and occipital clusters” is important but inadequately discussed. Elaborate on why these regions matter for cardiovascular rehab and cognitive functioning.

Author revised the manuscript and uploaded the updated document.

## 1.2 Reviewer 2

Reviewer:

The sentence “Depending on the direction, acceleration, and force of movement into space...” lacks clarity and scientific rigor. Clarify the physiological process and cite specific studies that detail the mechanism of neuronal firing in sensorimotor coordination.

The sentence “Furthermore, dancing has been shown to result in greater gray matter density (GMD)...” introduces an important but underexplored topic. Consider expanding on how dance training mechanistically differs from repetitive strength training and why it uniquely affects GMD.

The sentence “The keywords on searches were...” lacks detail about Boolean operators, inclusion/exclusion criteria, and the specific date range for the literature review. Add this information to ensure replicability.

The expression “rehab program may have several positive points” is too informal. Replace with “rehabilitation programs provide several clinically beneficial outcomes”.

Expand on “transient nature of these changes” by discussing the timescale and what type of maintenance exercises are needed to sustain gray matter density increases.

The sentence “In conclusion this narrative review has explored” is grammatically incorrect. Correct to “In conclusion, this narrative review has explored...” and remove informal connectors.

The inclusion of “childhood trauma and adult mental health disorders” is out of context for this article. Remove or justify with a clearly articulated link to cardiovascular outcomes or neuroplasticity.

Author revised the manuscript and uploaded the updated document.

## 2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.