

Acute and Chronic Effects of Exercise on Cardiovascular System

Vitor Engrácia Valenti

Vitor Engrácia Valenti, Department of Speech, Hearing and Language Therapy, College of Phylosphy and Sciences, UNESP, Marília, SP, Brazil and Post-Graduation Program in Physical Therapy, College of Sciences and Technology, UNESP, Presidente Prudente, SP, Brazil.

Conflict-of-interest statement: The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

Open-Access: This article is an open-access article which was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>

Correspondence to: Vitor Engrácia Valenti, Department of Speech, Hearing and Language Therapy, College of Phylosphy and Sciences, UNESP, Marília, SP, Brazil

Email: vitor.valenti@pq.cnpq.br

Telephone: +55 14 3402-1324

Received: October 1, 2016

Revised: January 18, 2017

Accepted: January 22, 2017

Published online: February 24, 2017

© 2017 The Author(s). Published by ACT Publishing Group Ltd. All rights reserved.

Valenti VE. Acute and Chronic Effects of Exercise on Cardiovascular System. *Journal of Cardiology and Therapy* 2017; 6(1): 581-585 Available from: URL: <http://www.ghrnet.org/index.php/jct/article/view/2004>

EDITORIAL

Cardiovascular rehabilitation through exercise is of great interest since cardiovascular disease is one of the main cause of mortality

worldwide^[1]. Exercise presents benefic effects on the reduction of cardiovascular disorders development^[2]. Previous studies analyzed the influence of aerobic exercise in improving cardiovascular function through physiological mechanism^[3-5].

In this special number of the Journal of Cardiology and Therapy we discuss the acute and chronic effects of exercise on cardiovascular system.

Pires *et al* evaluated the influence of physical activity on quality of life in stroke patients who perform physical therapy. The authors investigated stroke patients and divided into two groups: one who practiced regular physical activity and the control group who did not practice regular physical activity. As a main result, it was not found significant difference on quality of life between both groups. This is possibly due to the small sample obtained.

Gutierrez *et al* reported the acute effects of music on cardiovascular variables during recovery from aerobic exercise. In order to analysis cardiovascular system they performed heart rate variability (HRV) method, which is well recognized in the literature^[6-10]. The final conclusion of the study was absence of music influence on vagal heart rate modulation during recovery from exercise.

Finally, Giacon *et al* performed a literature review in order to better describe the effect of physical exercise on autonomic nervous system in patients with diabetes mellitus through autonomic regulation of heart rate. The references selected by the authors showed that aerobic exercise improve autonomic heart rate control of subjects with diabetes mellitus. On the other hand, it is worth to mention that intensity and duration of exercise are important variables to study.

In this context, this special issue of the Journal Cardiology and Therapy focused on the effects of physical exercise on cardiovascular system in different situations. The editorial board wish you a good read.

REFERENCES

1. Go AS, Mozaffarian D, Roger VL, Benjamin EJ, Berry JD, Borden WB, Bravata DM, Dai S, Ford ES, Fox CS, Franco S, Fullerton HJ, Gillespie C, Hailpern SM, Heit JA, Howard VJ, Huffman MD, Kissela BM, Kittner SJ, Lackland DT, Lichtman JH, Lisabeth LD, Magid D, Marcus GM, Marelli A, Matchar DB, McGuire DK, Mohler ER, Moy CS, Mussolino ME, Nichol G, Paynter NP, Schreiner PJ, Sorlie PD, Stein J, Turan TN, Virani SS, Wong ND, Woo D, Turner MB; American Heart Association Statistics Com-

- mittee and Stroke Statistics Subcommittee.. Heart disease and stroke statistics--2013 update: a report from the American Heart Association. *Circulation*. 2013 Jan 1; **127**(1): e6-e245. [DOI: 10.1161/CIR.0b013e31828124ad]
2. Pearson MJ, Smart NA. Effect of exercise training on endothelial function in heart failure patients: A systematic review meta-analysis. *Int J Cardiol*. 2016 Dec 28. pii: S0167-5273(16)32418-4. [DOI: 10.1016/j.ijcard.2016.12.145]. [Epub ahead of print]
 3. Pearson MJ, Smart NA. Effect of exercise training on endothelial function in heart failure patients: A systematic review meta-analysis. *Int J Cardiol*. 2016 Dec 28. pii: S0167-5273(16)32418-4. [DOI: 10.1016/j.ijcard.2016.12.145]
 4. Deijle IA, Van Schaik SM, Van Wegen EE, Weinstein HC, Kwakkel G, Van den Berg-Vos RM. Lifestyle Interventions to Prevent Cardiovascular Events After Stroke and Transient Ischemic Attack: Systematic Review and Meta-Analysis. *Stroke*. 2017 Jan; **48**(1): 174-179. [DOI: 10.1161/STROKEAHA.116.013794]
 5. Ades PA, Keteyian SJ, Wright JS, Hamm LF, Lui K, Newlin K, Shepard DS, Thomas RJ. Increasing Cardiac Rehabilitation Participation From 20% to 70%: A Road Map From the Million Hearts Cardiac Rehabilitation Collaborative. *Mayo Clin Proc*. 2016 Nov 14. pii: S0025-6196(16)30648-6. [DOI: 10.1016/j.mayocp.2016.10.014]
 6. Task Force of the European Society of Cardiology and the North American Society of Pacing and Electrophysiology. Heart rate variability: standards of measurement, physiological interpretation and clinical use. *Circulation*. 1996; **93**(5): 1043-65. [DOI: 10.1161/01.CIR.93.5.1043]
 7. Aubert AE, Ramaekers D, Beckers F, Breem R, Deneff C, Van de Werf F, Ector H. The analysis of heart rate variability in unrestrained rats. Validation of method and results. *Comput Methods Programs Biomed*. 1999; **60**(3): 197-213. [DOI: 10.1016/S0169-2607(99)00017-6]
 8. Valenti, VE. The recent use of heart rate variability for research. *Journal of Human Growth and Development*. 2015; **25**(2): 137-139. [DOI: 10.7322/jhgd.102991]
 9. Ramaekers D, Beckers F, Demeulemeester H, Aubert AE. Cardiovascular autonomic function in conscious rats: a novel approach to facilitate stationary conditions. *Ann Noninvasive Electrocardiol*. 2002; **7**(4): 307-18. [DOI: 10.1111/j.1542-474X.2002.tb00179.x]
 10. Valenti Ve. The use of heart rate variability in physiology. *Journal of Cardiology and Therapy* 2016; **3**(3): 513-514 [DOI: 10.17554/j.issn.2309-6861.2016.03.101]