

Scientific Interest on Cardiovascular Health and Cardio-Rehabilitation

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Abstract

Introduction: The prescription of physical exercises must be adjusted in the proportion in that the cardiovascular capacitating and the physical capacitating for the diary activities were going better according to rehabilitation program proposed by physiotherapy. It verified the number of publications in indexed journals cited on PubMed related with the cardiac rehabilitation and the main exercises utilized in the treatment.

Method: It evaluated in the PubMed (November 02, 2018) the number of publications in cardiac rehabilitation and some signals and symptoms of cardiovascular diseases and, cardiac rehabilitation and rehabilitation exercises. The number of publications of each signal/exercise was divided by total obtained for cardiac rehabilitation, calculated a percentile of publications for each signal/exercise.

Results: In 13480 citations verified high scientific interest in publications about myocardial infarction, angina and hypertension, the more researched. It also verified biggest interest in publications about aerobic exercises.

Conclusion: The analysis of the results shows the interest of the scientific community about signals and symptoms of the cardiac diseases. It verified the importance of the aerobic exercises for the cardiac rehabilitation, suggesting a discussion by professionals of physiotherapy of the procedures of cardiac rehabilitation.

Keywords: Aerobic exercises; Cardiac rehabilitation; Cardiovascular diseases

Introduction

In the last decades, the pattern of morbidity in Brazil has been passing with a transition period. According, it was occurred a better control of the infectious diseases and an increase of the degenerative chronic diseases [1]. The cardiovascular diseases are related to the main cause of death in the world and represented 27.3% of the death registered in Brazil in the year of 2000. Guyton and Hall described that the cause more common of death in the occidental Society is the ischemic cardiopathy and that around of 40% of the people in the United States of America death due this cause [2].

The recuperation of a patient that has been accmpted by a cardiovascular disorder involves treatment protocols that take in consideration some parameters. The prescription of physical exercises must be adjusted to the cardiovascular capacitation and the physical capability changes to better diaries activities with the rehabilitation models proposed by the physiotherapy. The prescription of exercises, the physiotherapist and other health professionals involved with the rehabilitation elaborate a quantity or exercise specific dose secure and beneficial to the subject having as objective to priorate the cardiovascular function and, if possible, decrease the risk of coronary cardiac disease. Considering the physical conditions of the subject, adjusting the intensity, frequency and duration [3-9].

The modes more common of exercises to the cardiac patients or to that interested in the cardiovascular function are the continue aerobic activities that utilized the superior and inferior extremities [10,11].

The cardiovascular disease is graved by arise of signals and symptoms and by risk factors as hypercholesterolemia, valvar insufficiency, angina, myocardium infarction, smoke, sedentarism, obesity, hypertension, diabetes mellittus, coronary disease familiar history and stress. Between all these the myocardium infarction, angina and hypertension are probably the factors of more importance to the scientific community. A new risk factor to the cardiovascular diseases has been identifying: the low weight to the born, as a fetal subnutrition reflex and in the first year of life [12].

The scientific Community interest in this specific theme can be evaluated by the analysis of the published articles in indexed periodic in trust database. One of these databases is the PubMed that have the abstracts of the articles and links to the sites that offered full articles text. The PubMed have been used by some authors to follow the publication numbers in many themes related with health science. In the study of type 1 diabetes [13], in the evaluation of cardiovascular risk of patients with spondyloarthropathies [14], in the review of the type 2 diabetes prevention [15,16], in the review of the criteria necessary to the early diagnosis of the cutaneous melanoma, in the evaluation of the atrial fibrillation provoke by drugs, in the evaluation of the articles about traditional Chinese medicine and more specific of the moxibustion technique [17].

The goal of this work was quantifying the indexed journals publications cited in the PubMed related with the cardiac rehabilitation and to the exercises utilized in the treatment of patients having cardiovascular disease.

Methodology

For the evaluation of the publications was utilized the health site PubMed (www.ncbi.nlm.nih.gov/PubMed/) in the day 02 of November of 2018. The number of publications in cardiac rehabilitations and some signals and symptoms of cardiac diseases were selected for analysis.

Before the identification of the number of publications in cardiac rehabilitation was realized other analysis, now with this term and the words hypertension, diabetes mellitus, obesity, angina, myocardial infarction, mitral valve, and of the tricuspid valve. The number of publications of each cited and researched word was divided by the total obtained for cardiac rehabilitation, calculated a perceptual of publications of each publications.

In this step of the work was realized the study using the cardiac rehabilitation with the exercises and proceeds related, with the words bicycle ergometry, endurance training, aerobic exercise, stress exercise, treadmill exercise, strength training and anaerobic exercises.

The number of publications in each one of the words used for the exercises was divided by the total obtained for cardiac rehabilitation, calculated a perceptual of publications to each one these exercises.

Results

Cardiopathy	% of publications
Tricuspid valve insufficiency	0.08
Obesity	3.25
Mitral valve insufficiency	0.37
Diabetes Mellitus	3.38
Hypertension	7.15
Angina	4.54
Myocardial infarction	0.57

Table 1: Interest of the scientific community in different signals and symptoms of cardiovascular diseases and cardiac rehabilitation.

When it was analysed the number of citations in cardiac rehabilitation in the PubMed were identify 13480 articles.

The determination of the perceptual of the publications involve cardiac rehabilitation and symptoms or signals associated with cardiac diseases, as hypertension, angina, myocardium infarction, diabetes mellitus, obesity, mitral valve insufficiency or tricuspid valve, revealed that it was identify a value high superior to the hypertension of the that for the others as showed in the Table 1.

In the Table 2 it can identify percentage of publications, when it related cardiac rehabilitation and any proceeds that potentially they were been utilized in patients that suffer some cardiovascular problem. It was verifying that this perceptual of publications, according these methodologies, is higher to the aerobic exercises follow of the stress exercises.

Exercise	% of publications
Bicycle ergometry	1.05

Endurance training	2.46
Aerobic exercise	41.51
Stress exercise	4.57
Treadmill exercise	2.92
Strength exercise	3.75
Anaerobic exercise	1.36

Table 2: Interest of the scientific community in cardiac rehabilitation exercises.

Discussion

The scientific information is of great value to the decision-making and in the health area this has importance. It is high suggestive suppose that the useful of the scientific knowledge also have contributed to the modification of the pattern of morbimortality in Brazil and in the world. This fact would be possibility a better control of the infectious diseases and help in the exploitation of methods of diagnosis and treatment of chronic-degenerative diseases.

The cardiovascular diseases correspond to the main cause of death in the world and represent 27.3% of the recorded deaths in the Brazil in the year of 2000 [18] and the ischemic heart disease is responsible for around of 40% of people deaths in United States of America. The rehabilitation of one patient that has been affected by a cardiovascular disturb involve protocols of treatment that takes in consideration several parameters [19].

The identification of the investigations about signals and symptoms related with the cardiovascular disturbs could be relevant in the establishment of conditions and programs that could minimize the emergence or the advance of the cases number. The PubMed is a scientific index broadly used in publications by a lot of authors [20].

Ours results revealed that to the use the cited methodology, the hypertension, when associated with the cardiac rehabilitation, is the symptom indicates of cardiovascular disease more cited in comparison with myocardium infarction, angina, diabetes mellitus, or obesity, mitral valve or tricuspid valve insufficiency (Table 1).

The maintenance of one program of exercises could be one of the factors that contributed to promote quality of life related with the health and a level of physical activity compatible with the cardiac disease [2,10].

Programs of aerobic exercises could maximize the muscle and cardiopulmonary functions and prevent the additional disuse atrophy in patients with muscular and cardiac diseases [21]. The obtained results about the interest of the scientific community in publish articles about cardiac rehabilitation indicate the high interest in the realization of investigation about aerobic exercises (Table 2).

Conclusion

The analysis of the results shows the interests of the scientific community in develop works about the signals and symptoms of the cardiac diseases, with interest in the hypertension. Even more, it verified the importance of the aerobic exercises to the cardiac rehabilitation, for which it is suggested a discussion larger by

physiotherapy professionals of the cardiovascular rehabilitation proceeds.

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Conflict to Interest

Author declares that no conflict of interest about this work.

References

1. Alves JGB, Figueiroa JN (2002) Infant mortality in Brazil and deaths, in the same generation, due to acute myocardial infarction. *Cad. Saúde Pública* 20: 1525-1530.
2. Guyton AC, Hall JE (2002) *Tratado de Fisiologia Médica*. Rio de Janeiro: Guanabara Koogan.
3. Adams J, Roberts J, Simms K, Cheng D, Hartman J (2009) Measurement of functional capacity requirements to aid in development of an occupation-specific rehabilitation training program to help firefighters with cardiac disease safely return to work. *Am J Cardiol* 103: 762-765.
4. Alves JGB, Figueiroa JN (2002) Infant mortality in Brazil and deaths, in the same generation, due to acute myocardial infarction. *Cad. Saúde Pública* 20: 1525-1530.
5. Aronow W S (2005) Management of peripheral arterial disease. *Cardiol Rev* 13: 61-68.
6. Carré F (2009) Is individual risk related to physical activity predictable in cardiac patient. *Presse Med* 38: 953-957.
7. Carroll JF, Pollock ML (1992) Rehabilitation and life-style modification in the elderly. *Cardiovasc Clin* 22: 209-227.
8. Graves JE, Pollock ML (1993) Exercise testing in cardiac rehabilitation. Role in prescribing exercise. *Cardiol Clin* 11: 253-266.
9. Fardy PS, Yanowitz FG, Wilson PK (1998) *Reabilitação cardiovascular. Aptidão física do adulto e teste de esforço*. Rio de Janeiro: Revinter.
10. Izawa KP, Yamada S, Oka K, Watanabe S, Omiya K (2004) Long-term exercise maintenance, physical activity, and health-related quality of life after cardiac rehabilitation. *Am J Phys Med Rehabil* 83: 884-892.
11. Voet NB, van der Kooi EL, Riphagen II, Lindeman E, van Engelen BG (2005) Strength training and aerobic exercise training for muscle disease. *Cochrane Database Syst. Rev* 9: CD003907.
12. Kreizman IJ, Allen D (2005) Aging with cardiopulmonary disease: the rehab perspective. *Phys Med Rehabil Clin N Am* 16: 251-265.
13. Manthei ER, Siminerio LM, Conley Y, Charron-Prochownik D, Feathers AS (2004) Genetics and type 1 diabetes: online resources for diabetes educators. *Diabetes Educ* 30: 961-971.
14. Peters MJ, van der Horst-Bruinsma IE, Dijkmans BA, Nurmohamed MT (2004) Cardiovascular risk profile of patients with spondylarthropathies, particularly ankylosing spondylitis and psoriatic arthritis. *Semin Arthritis Rheum* 34: 585-592.
15. PubMed <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi>, National Library of Medicine, accessed in 05/10/2018.
16. Qvigstad E (2004) Prevention of type 2 diabetes--an overview. *Tidsskr Nor Laegeforen* 124: 3047-3050.
17. Santos-Filho SD, Bastos SRC, Pereira FAO, Senna-Fernandes V, França D, Guilhon S and Bernardo-Filho M (2004) Traditional medicine: an evaluation of the interest of the publication of scientific papers about moxibustion. *Journal of Medical Sciences* 4: 59-62.
18. Song KJ (2003) The effects of self-efficacy promoting cardiac rehabilitation program on self-efficacy, health behavior and quality of life. *Tashan Kanho Hakhoe Chi* 33: 510-518.
19. St Sauver JL, Hagen PT, Cha SS, Bagniewski SM, Mandrekar JN (2005) Agreement between patient reports of cardiovascular diseases and patient medical records. *Mayo Clin Proc* 80: 203-210.
20. Trupp RJ (2004) Cardiac resynchronization therapy: optimizing the device, optimizing the patient. *J Cardiovasc Nurs* 19: 223-233.
21. van der Hoof CS, Heeringa J, van Herpen G, Kors JA, Kingma JH (2004). Drug-induced atrial fibrillation. *J Am Coll Cardiol* 44: 2117-2124.