

Heart, Exercise and the Brazilian Archives of Cardiology

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The Brazilian Archives of Cardiology (ABC) is the most important and oldest scientific publication of Brazilian cardiology. Since its third volume was published in 1950, its articles have been indexed in Medline, and since then the journal has received more than 6,700 contributions (including original articles, review articles, case reports and other forms of written communication). Currently, ten associate editors, from different areas of our specialty, help the editor in chief to select the articles and prepare each issue. The specific areas are clinical and surgical, interventional and pediatric cardiology, in addition to arrhythmia, noninvasive diagnostic methods, experimental and basic research, epidemiology/statistics, arterial hypertension, and, as of March 2011, ergometry, exercise and cardiac rehabilitation.

The creation of this new editorial area was based on evidence. Over the years it has been shown that publications related to the exercise-heart association increased. If we limit the search in Medline between January 2001 and December 2010, during which the associated editorial line of research did not exist, we will find a very interesting situation. During that decade there were exactly 2,061 articles published in ABC. Analyzing only the 2007-2010 period, we observe that approximately 80% of the published material consist of original papers, while the remaining 20% are divided between editorials, review articles and letters to the editor. If we divide these ten years in three periods, we observe a significant increase (Chi-square for trend = 29.7, $p < 0.001$ and linear regression with $r^2 = 0.75$, $p < 0.001$) in the number of publications on the subject of exercise: between 2001 and 2005 they comprised only 6% of all articles; between 2006 and 2009, this figure had risen to 10% and in 2010, this percentage reached the promising figure of 16.6% of the total number of published articles (Fig. 1). By the way, between 2001 and 2010, the mean number of annual publications related to exercise was around 10% (Table 1).

However, as things are not always a bed of roses, it is worth mentioning that the ABC was indexed in ISI only in 2007, which is an important limitation when searching for specific citations. Similarly, as well as in other editorial departments, the index of

citations related to exercise articles have been shown to be low, even when compared to the ten major cardiology journals in the world, with most articles getting less than three citations or having never been cited. When extensively analyzing the several "Citation reports" that can be generated by Web of Knowledge 5.4 (accessed via CAPES Periodicals Portal), one can verify that only 44% of articles published in ABC from 2007-2010 were cited at least once, more often in the second year after its publication. In turn, it can be observed that the citability profile of exercise-related articles is very similar to that of other articles in general (35.8%), with a mean rate of citation of 0.89 *versus* 1.05 for all the other articles. However, it is noteworthy that the most cited original article between January 2007 and October 2011, with a total of 24 citations and published in 2007, was an article that addressed the topic of exercise. It should be noted that during the four years covered by our analysis, there was at least one or more articles on exercise among those most cited in a given year.

It is worth mentioning that the increasing participation of exercise-related articles among ABC publications raises the concern of what the influence of this modification would be on the citations received by the journal. In the Thomson-Reuters Web of Science database, where data on the ABC are available since January 2007, it is possible to objectively analyze the impact of research on exercise (same keywords we used in the Medline search) on the citation profile of the journal in general. While in 2007 90% of the published material corresponded to original articles, this percentage was reduced to about 75% in the following years, with a significant increase in the participation of reviews, which quadrupled from 2.2% to 8.8%. The same, however, was not observed in the published material addressing issues related to physical exercise, in which the participation of original articles remained basically constant, around 91.5% between 2007 and 2010.

Restricting our analysis to the 2009-2010 period and considering only the articles on physical exercise, we selected the twelve most accessed ones in the SciELO database (Table 2). Among them there are nine original articles, two review articles and one letter¹⁻¹². Interestingly, the most accessed was a Letter to the reader, which addressed the theme of arterial hypertension and physical activity. There were 5,597 accesses from the date of its publication in April 2009 to November 11, 2011. Another interesting fact is that among these studies, eleven were carried out in Brazil, six of which in the State of São Paulo, one in Mato Grosso, one in Rio Grande do Sul, one in Rio de Janeiro and one in Santa Catarina. The only international study was carried out in Kosovo. As for the addressed themes, most of these articles considered aspects related to the role of physical exercise on the prevention and treatment of cardiovascular diseases, and none of them specifically addressed ergometry.

Keywords

Bibliometrics, publications, heart, exercise.

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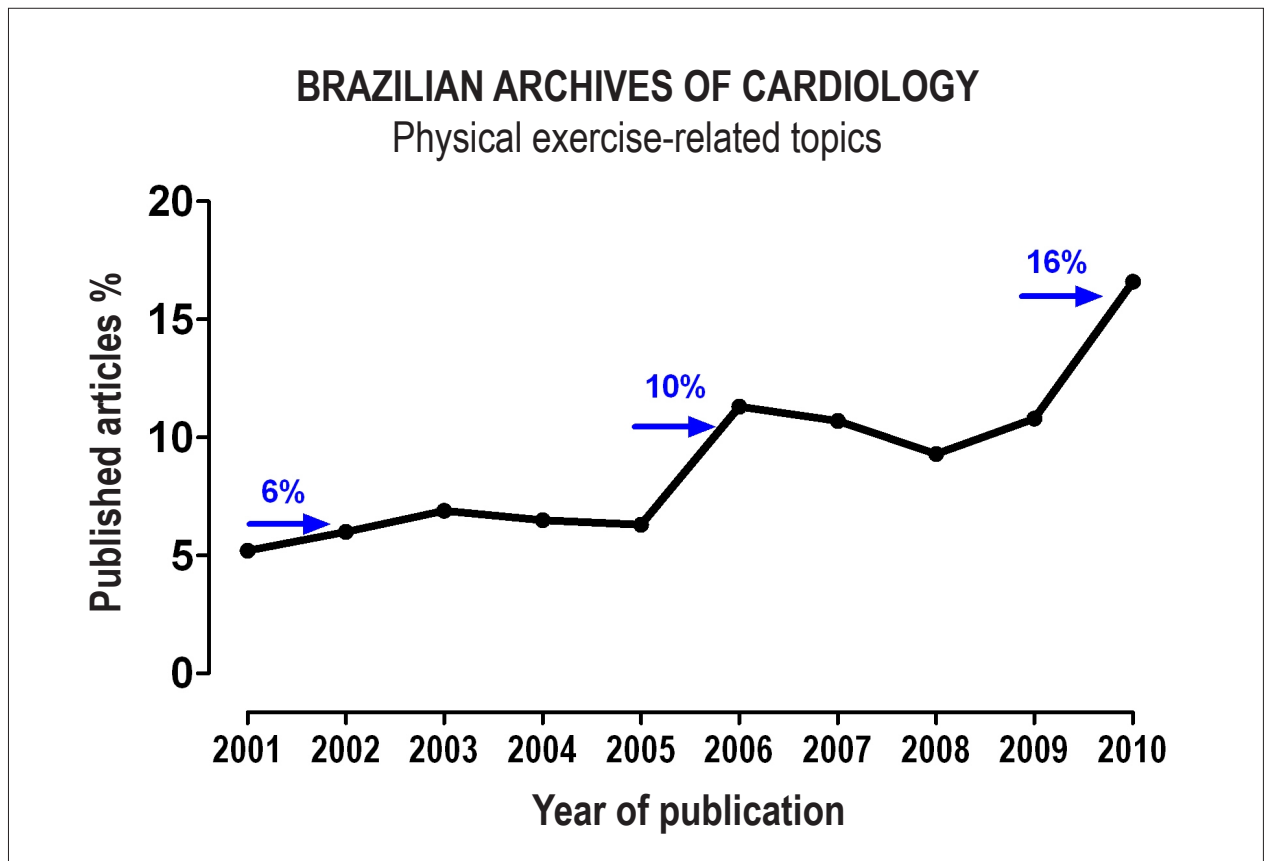


Figure 1 – Mean annual exercise-related publications between 2001 and 2010.

Table 1 - Map of publications and citations with the mean annual exercise-related publications between 2001 and 2010

BRAZILIAN ARCHIVES OF CARDIOLOGY Published articles* 2001-2010 Period				
YEAR	n	n-Search	n-Reviewed	% n-Reviewed/n
2001	134	9	7	5.22%
2002	168	16	10	5.95%
2003	160	13	11	6.88%
2004	184	12	12	6.52%
2005	224	15	14	6.25%
2006	274	35	31	11.31%
2007	244	28	26	10.66%
2008	172	19	16	9.30%
2009	259	35	28	10.81%
2010	331	65	55	16.62%
Total	2.150	247	210	9.77%

* Medline; n - Number of articles published, n-Search - Number of articles published with the following keywords: Exercise OR physical activity, OR sports, OR ergometry, OR rehabilitation, OR physical training; n-Reviewed – n-Search individually evaluated the abstract concerning relevance; % n-Reviewed / n - Percentage of articles with topics effectively related to exercise.



Editorial

Finally, a brief comment on the exercise-related editorial line of the Brazilian Archives of Cardiology. Born very recently, its main objective is to receive, evaluate and accept the scientific literature related to ergometry, physical exercise and cardiac rehabilitation that will appear on the pages of our

journal. In this regard, the challenge here goes in the same direction as the great effort made by the entire editorial board, i.e., make the Brazilian Archives of Cardiology a publication with growing scientific quality, in order to promote it in the international arena.

Table 2 – List of the 12 most often accessed articles in the SCIELO* database: published in 2009-2010, physical-exercise related articles

Accesses (N)	Ano	Volume, Issue, Pages	Article title	Type	City	Country
3.229	2009	v.92, i.1, p.31-8	Physical exercise attenuates the cardiac autonomic deficit induced by nitric oxide synthesis blockade	Original	Ribeirão Preto	Brazil
3.329	2009	v.93, i.5, p.519-25	Circuit weight training vs. jogging in metabolic risk factors of overweight/obese women	Original	Cuiabá	Brazil
3.459	2009	v.93, i.6, p.692-700	Anti-inflammatory effect of physical training in heart failure: role of TNF- α and IL-10	Review	São Paulo	Brazil
3.483	2010	v.95, i.1, p.61-9	Lifestyle and Cardiovascular Health in School Adolescents from São Paulo	Original	São Paulo	Brazil
3.559	2009	v.92, i.2, p.135-42	Circulatory response to a 50-m walk in the coronary care unit in acute coronary syndrome	Original	Salvador	Brazil
3.706	2009	v.92, i.2, p.127-34	Echocardiography and 6-minute walk test in left ventricular systolic dysfunction	Original	Prishtina	Kosovo
3.712	2010	v.94, i.4, p.549-55	Coronary heart disease, physical exercise and oxidative stress	Review	Criciúma	Brazil
3.965	2009	v.93, i.4, p.400-8	Exercise prevents cardiometabolic alterations induced by chronic use of glucocorticoids	Original	São Paulo	Brazil
4.453	2009	v.92, i.1, p.16-22	Prevalence of cardiovascular risk factors in a population of Brazilian industry workers	Original	Ribeirão Preto	Brazil
4.664	2009	v.93, i.1, p.45-52	Blood pressure measurement during aerobic exercise: subsidies for cardiac rehabilitation	Original	Rio de Janeiro	Brazil
5.231	2009	v.93, i.3, p.239-46	Heart rate variability, blood lipids and physical capacity of obese and non-obese children	Original	Campinas	Brazil
5.597	2009	v.93, i.4, p.446-7	Arterial Hypertension and Physical Activity	Letter	Porto Alegre	Brazil

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