

## Editorial Review

### IMPACT FACTOR EVOLUTION ON *MEMÓRIAS DO INSTITUTO OSWALDO CRUZ*

*Memórias do Instituto Oswaldo Cruz* has published, in the 2002-2004 triennium, 602 articles: 582 original articles, 17 review articles, and 3 editorials. In 2002, its 254 publications were cited 405 times by ISI (*Institute for Scientific Information*) indexed journals, according to data from *Journal Citation Reports (JCR)*, June 2005; the citations per article varied from one to 51, whereas the 177 publications of 2003 were cited 167 times, varying from one to 11 citations per article. Considering that the 430 works published in both years have been cited 572 times, this means a rate of 1.33 citations per article, indicating an excellent progress in terms of impact factor. In order to calculate the impact factor, it is necessary to divide the number of times the articles published by the journal are cited in the former two years, by the number of annual published articles. *Memórias* has reached an index of 0.740, for 2002-2004 period (Table I, Fig. 1).

TABLE I  
Impact factor and total cites - 1994/2004

Year	Total cites	Impact factor
1994	524	0.255
1995	538	0.306
1996	680	0.314
1997	797	0.440
1998	937	0.474
1999	1281	0.636
2000	1299	0.542
2001	1443	0.643
2002	1714	0.635
2003	1805	0.688
<b>2004</b>	<b>1928</b>	<b>0.740</b>

Source: *Journal Citation Reports, Institute of Scientific Informations*

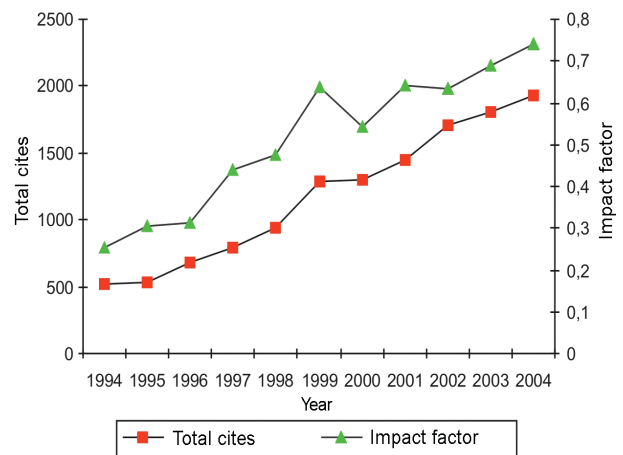


Fig. 1: impact factor evolution

It may be observed in Fig. 1 and Table I that the impact factor of *Memórias do Instituto Oswaldo Cruz* has been increasing over the past years, revealing a significant evolution from 1994 to 2004. Besides, the number of searches for on-line complete texts, of summary requests, as well as the number of total hits have also been increasing exponentially, showing a monthly variation over the last 32 months, especially since June 2003, according to Fig. 2 and Table II, representing the period from October 2002 until July 2005 (source Bioline International).

According to a correspondence of August 8, 2005 from Jen Sweezie, Project Coordinator at Bioline International, *The Memórias do Instituto Oswaldo Cruz is the largest publication on the Bioline International system and we feel it draws many users to our website. In recent usage statistics, it has the highest number of hits, and we are very pleased with the journal on our system* (see Fig. 2).

Although the quality and relevance of published articles affect how often they are cited in the work of others, many other factors also have an effect on a journal's impact factor by affecting the number of citations, the number of source items, or both (Christopher MM 2003. The impact factor: getting a grip. *Vet Clin Pathol* 32: 98-100). To cite only a few:

- **Visibility of the journal** - It is mainly affected by circulation, indexing, and on-line access. Only articles that are "found" can be cited.
- **Review articles** - They are cited more than twice as often as other articles.
- **Case reports** - These are the least cited type of publication.
- **Method articles** - They are not cited more often and do not affect the impact factor differently than do other original articles.

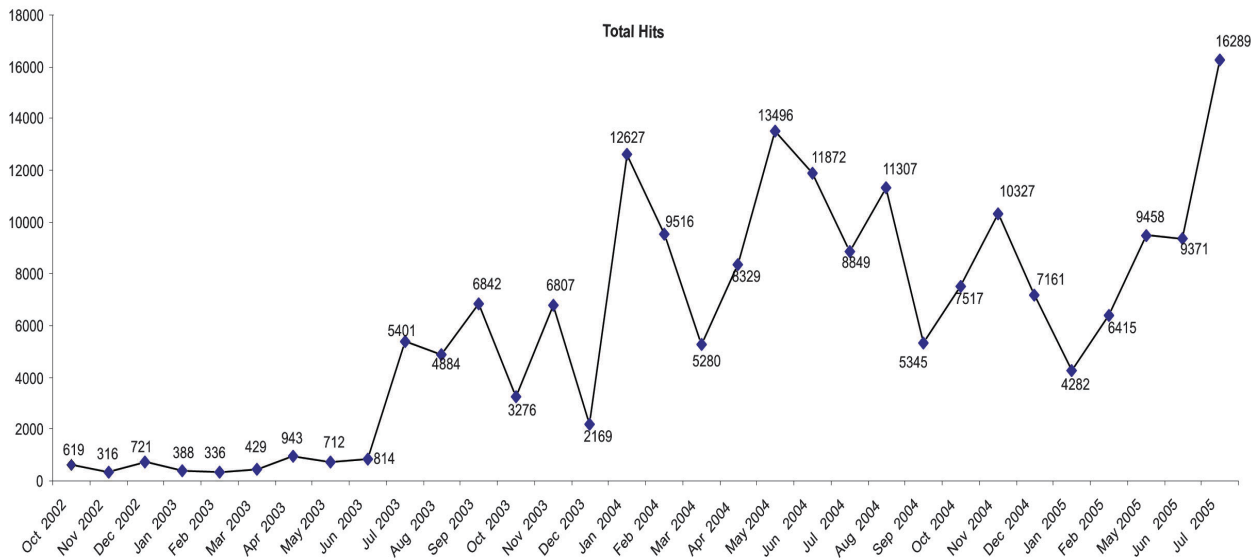


Fig. 2: total cites - October 2002-July 2005

TABLE II  
Summary of hit statistics (October 2002 - July 2005)

Month/Year	Total hits	Access to full-text	Requests for abstracts
Oct. 2002	619	48	225
Nov. 2002	316	22	52
Dec. 2002	721	26	233
Jan. 2003	388	160	35
Feb. 2003	336	122	41
Mar. 2003	429	139	112
Apr. 2003	943	565	160
May 2003	712	337	152
Jun. 2003	814	434	131
Jul. 2003	5401	753	4230
Aug. 2003	4884	704	3675
Sep. 2003	6842	1457	4596
Oct. 2003	3276	1298	1186
Nov. 2003	6807	1576	4339
Dec. 2003	2169	965	512
Jan. 2004	12,627	1467	6767
Feb. 2004	9516	2023	6385
Mar. 2004	5280	1900	1435
Apr. 2004	8329	1488	5078
May 2004	13,496	1209	10,406
June 2004	11,872	1077	8961
July 2004	8849	1178	5907
Aug. 2004	11,307	1610	7910
Sep. 2004	5345	781	2853
Oct. 2004	7517	945	4935
Nov. 2004	10,327	976	7437
Dec. 2004	7161	974	4786
Jan. 2005	4282	2942	1634
Feb. 2005	6415	5323	8251
May 2005	9458	8356	8839
June 2005	9371	8412	4961
July 2005	16,289	15,140	11,989

• **Citation practices** - Self-citation, citing articles without reading them, the tendency to cite English language articles, citing a poor quality study to illustrate a point, and restricting the number of references per articles, affect impact factors.

Another question is: how to define quality? Is a good paper considered so because it was published in a reputable journal? Or because it comes from a reputable institution? Ideally, the evaluation of the quality of a given article should not require knowledge of who wrote it, where it was published, or even how often it was cited. Quality is inherent to the article itself, and distinct from what is done with the article. Of course the quality of the article a journal publishes reflects the quality of the manuscripts submitted, the selection criteria used by the journal, and the extent to which the reviews improve the final version.

Although, on previous article, we have already discussed "Impact factors, scientific production and quality of Brazilian average journals" (Coura & Willcox 2003. *Mem Inst Oswaldo Cruz* 98: 293-297), we recommend the reading of *Nature* 435: 1003-1004 (23 June 2005) editorial, which states, among other important comments, the following: *Impact factors don't tell as much as some people think about the quality of the science the journals are publishing.*

José Rodrigues Coura  
Luciane CB Willcox