

• EDITORIAL •

# Improved citation status of *World Journal Gastroenterology* in 2004: Analysis of all reference citations by *WJG* and citations of *WJG* articles by other SCI journals during 1998-2004

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## Abstract

**AIM:** To determine the citation status in 2004 and the citation trend of *WJG* by analyzing all articles cited by *WJG* and all *WJG* articles cited by SCI journals during 1998-2004.

**METHODS:** The total number of published articles and reference citations in *WJG*, authors' self-citations, *WJG*'s self-citations, citations of *WJG* articles by SCI journals and inappropriate citations in *WJG* during 1998-2004 were statistically analyzed. Data on self-citations of the articles published between 1998 and August 2004 (Issues 1-16) were from ISI SCI-E, and data on self-citations of articles published after August 2004 (Issues 17-24) were from the *WJG* Editorial Office. Data on citations of *WJG* articles by other journals between 1998 and August 2004 were from ISI SCI-E.

**RESULTS:** Annual number of published articles: *WJG* published 179, 144, 211, 174, 236, 634 and 830 articles, respectively, in 1998, 1999, 2000, 2001, 2002, 2003 and 2004. The number in 2004 increased by 594, compared to that in 2002, giving an increased rate of 251.7%. Annual references cited by *WJG* were 2 123, 2 125, 6 244, 8 883, 11 442, 23 218 and 25 971, respectively, in 1998-2004. The average number was 31.3 per *WJG* article in 2004, which was less than that (48.5) in 2002, giving a reduction rate of 35.5%. Authors of *WJG* cited 125, 126, 343, 210, 354, 310 and 470 of their own published articles, respectively, in 1998-2004. The average number of authors' self-citations was 0.57 per *WJG* article in 2004, which was decreased by 0.93 or 62.0%, compared with that in 2002. Annual numbers of journal's self-citations: Authors of *WJG* articles cited 5, 7, 373, 733, 1474, 1947 and 1412 of *WJG* articles, respectively, in 1998-2004. The average number of journal's self-citations was 1.70 per *WJG* article in 2004, which decreased by 4.55 or 72.8%. No *WJG* article was cited in 1998 by other SCI journals. However, the number of citations steadily increased afterwards, with 16, 18, 39, 85, 372 and 580, respectively, in 1999-2004. The average number of citations by other SCI journals was 0.11, 0.09, 0.22, 0.36, 0.59 and 1.06 per *WJG* article, respectively, 1999-2004 (January-August). There was an increase by

582%, when comparing the citation numbers between 2004 and 2002. Annual *WJG* self-citation rates and citation rates of *WJG* articles by other SCI journals: *WJG* self-citation rates were 30.43%, 95.40%, 95.07%, 94.55%, 83.96% and 67.47%, respectively, in 1999-2004 (January-August). Compared with 2002, the self-citation rate in 2004 decreased by 26.87%. The citation rates of *WJG* articles by other SCI journals were 69.57%, 4.60%, 4.93%, 5.45%, 16.04%, and 32.53%, respectively, in 1999-2004 (January-August). Compared with 2002, the citation rate in 2004 decreased by 26.87%. There were 8, 19, 218, 274, 461, 698 and 574 inappropriate citations, respectively, in 1998-2004. The average inappropriate citation in 2004 was 0.69 per article, which represents a decrease of 1.26, compared with that in 2002. Inappropriate citations were mostly those with the differences between the two sides of the hyphens of 5-9, and the proportions of inappropriate citations within the three subsections of the differences between the two sides of the hyphens (5-9, 10-19, and  $\geq 20$ ) were approximately 7:2:1. In addition, inappropriate citations mostly occurred with frequencies of 1-3 in the articles, and the proportion of inappropriate citations within the two frequency subsections (1-3 and  $>3$ ) have been approximately 4:1 since 1999.

**CONCLUSIONS:** In 2004, the average number of reference citations, authors' self-citations and journal's self-citations were 31.3, 0.57 and 1.70 per article, respectively, which represents a decrease in the numbers by 35.5%, 62.0%, and 72.8% respectively compared to the corresponding numbers in 2002. *WJG* self-citation rate was 67.47% in 2004 (January-August), which was a decrease by 26.87%, compared with 2002. The citation rate of *WJG* articles by other SCI journals was 32.53% in 2004 (January-August), an increase of 26.87%, compared to 2002. There were 574 inappropriate citations in 2004, with an average of 0.69 per article, which represents a decrease of 1.26, compared with that in 2002. These figures demonstrate that the overall citation status of *WJG* is improving.

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**Key words:** Gastroenterology; Citation status; Analysis

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<http://www.wjgnet.com/1007-9327/11/1.asp>

## INTRODUCTION

The English version of the *World Journal of Gastroenterology*

(*WJG*) has been formally published for six years. Over the past six years, *WJG* has developed rapidly both in contents and quality, with the impact factor steadily increased. However, there were also some areas that need improvement in the future. For example, self-citation is one of the major concerns. The aim of this study was to identify the citation trend of *WJG* by analyzing all articles cited by *WJG* and all *WJG* articles cited by SCI journals.

## MATERIALS AND METHODS

All references cited by *WJG* and all *WJG* articles cited by SCI journals between 1998 and 2004 (January-August) were included in the analyses. The number of articles published and references cited in *WJG*, authors' self-citations, journal's self-citations, citations and numbers of *WJG* articles by other SCI journals and inappropriate citations in *WJG* during 1998-2004 were determined. Data on self-citation of articles published between 1998 and August 2004 (Issues 1-16) was from ISI SCI-E, and data on self-citation of articles published after August 2004 (Issues 17-24) was from the *WJG* Editorial Office. Data on citations of *WJG* articles between 1998 and August 2004 by other SCI journals was from ISI SCI-E.

## RESULTS

The crude data on the number of articles published and references cited in *WJG*, authors' self-citations, journal's self-citations, citations and numbers of *WJG* articles by other SCI journals and inappropriate citations in *WJG* during 1998-2004 are summarized in Table 1.

### Annual published articles

*WJG* was published bimonthly between 1998 and 2002, and the number of published articles was relatively stable, with a slightly increasing trend. The journal was published monthly in 2003, and then semimonthly in 2004 to promote the development of gastroenterology and speed up the communication of research outcomes. *WJG* published 179, 144, 211, 174, 236, 634 and 830 articles, respectively, in 1998, 1999, 2000, 2001, 2002, 2003 and 2004. The number in 2004 increased by 594, compared to that in 2002, giving an increase rate of 251.7% (Figure 1).

### Annual reference citations

Reference citations consistently increased during 1998-2004.

*WJG* cited 2 123, 2 125, 6 244, 8 883, 11 442, 23 218 and 25 971 references respectively in 1998, 1999, 2000, 2001, 2002, 2003 and 2004 (Figure 2A). The reference citations per article were 11.9, 14.8, 29.6, 51.1, 48.5, 36.6 and 31.3, respectively, in 1998, 1999, 2000, 2001, 2002, 2003 and 2004 (Figure 2B). The number of reference citations per article in 2004 was 17.2% less than that in 2002, giving a reduction rate of 35.5%.

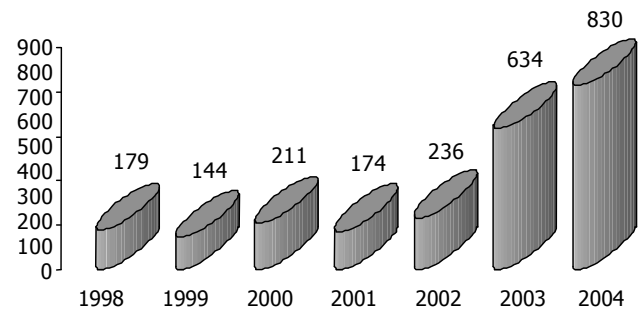


Figure 1 Number of articles published in *WJG* during 1998-2004.

### Annual authors' self-citations

Authors' self-citations are defined as the number that authors of *WJG* cite their own previously published articles in their *WJG* articles. Authors of *WJG* cited 125, 126, 343, 210, 354, 310 and 470 of their own published articles, respectively, in 1998, 1999, 2000, 2001, 2002, 2003 and 2004 (Figure 3A). The authors' self-citations per article were 0.70, 0.86, 1.63, 1.21, 1.50, 0.49 and 0.57, respectively in 1998, 1999, 2000, 2001, 2002, 2003 and 2004 (Figure 3B). The authors' self-citations per article in 2004 were decreased by 0.93 or 62.0%, compared with that in 2002.

### Annual journal's self-citations

Annual journal's self-citations are defined as the number that authors of *WJG* cite articles previously published in *WJG* in their *WJG* articles. Authors of *WJG* articles cited 5, 7, 373, 733, 1474, 1947 and 1412 of *WJG* articles respectively in 1998, 1999, 2000, 2001, 2002, 2003 and 2004 (Figure 4A). The journal's self-citations per article were 0.03, 0.05, 1.77, 4.21, 6.25, 3.07 and 1.70 respectively in 1998, 1999, 2000, 2001, 2002, 2003 and 2004 (Figure 4B). The journal's self-citations per article in 2004 decreased by 4.55 or 72.8% compared with that in 2002.

### Annual citations of WJG articles by other SCI journals

Citations of *WJG* articles by other SCI journals are defined as the number that articles published in *WJG* have been cited by

**Table 1** Number published articles, reference citations, reference citations per article, authors' self-citations, authors' citations per article, journal's self-citations, journal's self-citations per article, citations by other SCI journals, citations by other SCI journals per article, inappropriate citations, and inappropriate citations per article in *WJG* during 1998-2004

Year	Issue	Published articles	Reference citations	Reference citations per article	Authors' self-citations	Authors' citations per article	Journal's self-citations	Journal's self-citations per article	Citations by other SCI journals	Citations by other SCI journal per article	Inappropriate citations	Inappropriate citations per article
1998	Bimonthly	179	2 123	11.9	125	0.70	5	0.03	0	0.00	8	0.04
1999	Bimonthly	144	2 125	14.8	126	0.86	7	0.05	16	0.11	19	0.13
2000	Bimonthly	211	6 244	29.6	343	1.63	373	1.77	18	0.09	218	1.03
2001	Bimonthly	174	8 883	51.1	210	1.21	733	4.21	38	0.22	274	1.57
2002	Bimonthly	236	11 442	48.5	354	1.50	1 474	6.25	85	0.36	461	1.95
2003	Monthly	634	23 218	36.6	310	0.49	1 947	3.07	372	0.59	698	1.10
2004	Semimonthly	830	25 971	31.3	470	0.57	1 412	1.70	580 <sup>1</sup>	1.06 <sup>1</sup>	574	0.69

<sup>1</sup>Data on citations of *WJG* articles by other SCI journals and Citations *WJG* articles by other SCI journals per article in 2004 were based on issues published during January-August 2004.

SCI journals. No *WJG* article was cited in 1998 by other SCI journals. However, the number of citations steadily increased afterwards, with 16, 18, 39, 85, 372 and 580 respectively in 1999, 2000, 2001, 2002, 2003 and 2004 (Figure 5A). The number of citations by other SCI journals per article was 0.11, 0.09, 0.22, 0.36, 0.59 and 1.06 respectively in 1999, 2000, 2001, 2002, 2003 and 2004 (January-August) (Figure 5B). There was an increase of 582% in the number of citations between 2002 and 2004.

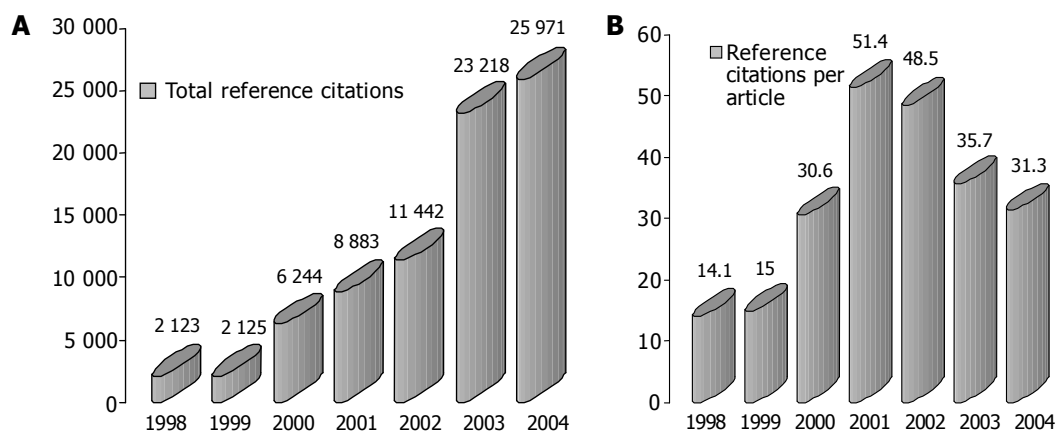
#### Annual self-citation rate and citation rate of *WJG* articles by other SCI journals

Self-citation rate is defined by SCI as the quotient obtained by

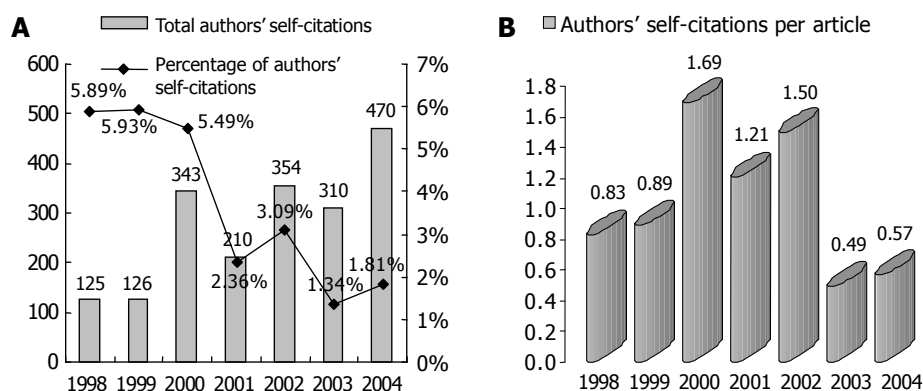
dividing the citation number of a journal's articles cited by that journal by the total citation number of the journal's articles cited by all journals, i.e.,

$$\text{Self-citation rate} = \frac{\text{Citation number of a journal's articles by that journal}}{\text{Total citation number of a journal's articles by all journals}}$$

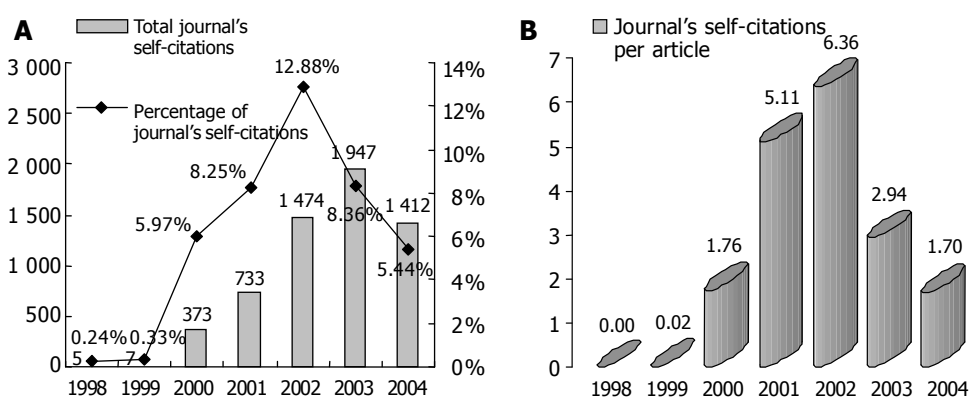
Citation rate by other journals is defined by SCI as the quotient obtained by dividing the citation number of a journal's



**Figure 2** Total reference citations (A) and reference citations per article (B) in *WJG* during 1998-2004.



**Figure 3** Total authors' self-citations and the percentage of total authors' self-citations in total reference citations (A) and the authors' self-citations per article (B).



**Figure 4** Total journal's self-citations and the percentage of journal's self-citations in total reference citations (A) and the journal's self-citations per article (B).

articles cited by that journal by the total citation number of the journal's articles cited by all journals, i.e.,

$$\text{Citation rate by other journals} = \frac{\text{Citation number of a journal's articles by other journals}}{\text{Total citation number of a journal's articles by all journals}}$$

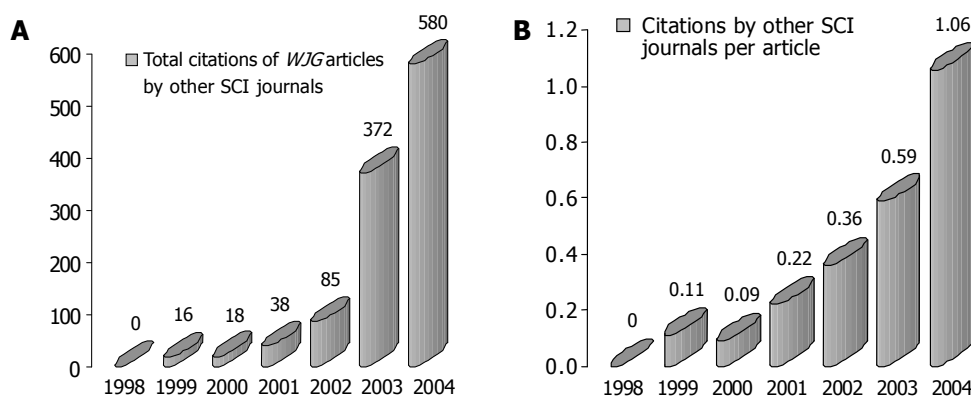
Annual *WJG* self-citation rate and citation rate of *WJG* articles by other SCI journals: *WJG* self-citation rates were 30.43%, 95.40%, 95.07%, 94.55%, 83.96% and 67.47% respectively in 1999, 2000, 2001, 2002, 2003 and 2004 (January-August)(Figure 6). Compared to 2002, the self-citation rate in 2004 decreased by 26.87%. The citation rates of *WJG* articles by other SCI journals were 69.57%, 4.60%, 4.93%, 5.45%, 16.04%, and 32.53% respectively in 1999, 2000, 2001, 2002, 2003 and 2004 (January-August). Compared

with 2002, the citation rate in 2004 increased by 27.08%.

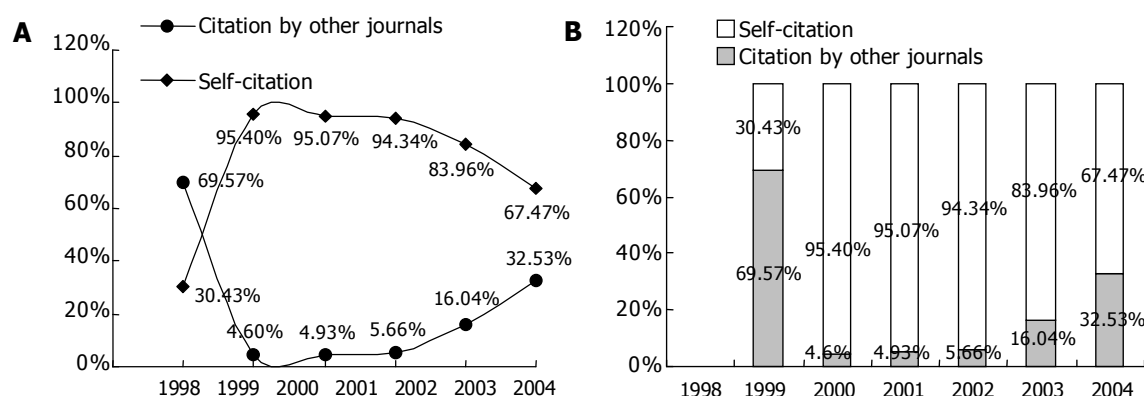
### Annual inappropriate citations

Inappropriate citations are defined as those that are connected by a hyphen with a difference between the two sides of the hyphen being 5 or more than 5. For example, [1-6], [2-14] and 4-10 in [1, 3, 4-10, 22] are inappropriate citations. There were 8, 19, 218, 274, 461, 698 and 574 inappropriate citations, respectively, in 1998, 1999, 2000, 2001, 2002, 2003 and 2004 (Figure 7A). The inappropriate citation per article in 2004 was 0.69, which represents a decrease of 1.26, compared to that (1.95) in 2002 (Figure 7B).

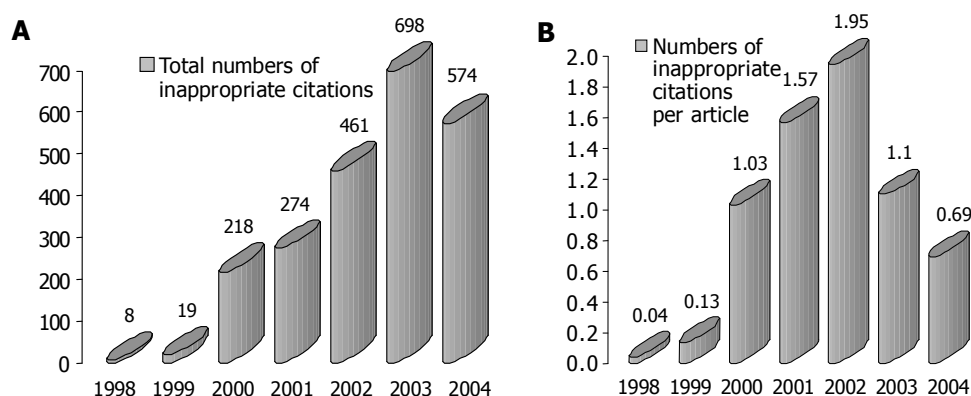
**Subsection analysis of the differences between the two sides of the hyphens** Subsection analysis of the differences between the two sides of the hyphens was carried out to reveal the



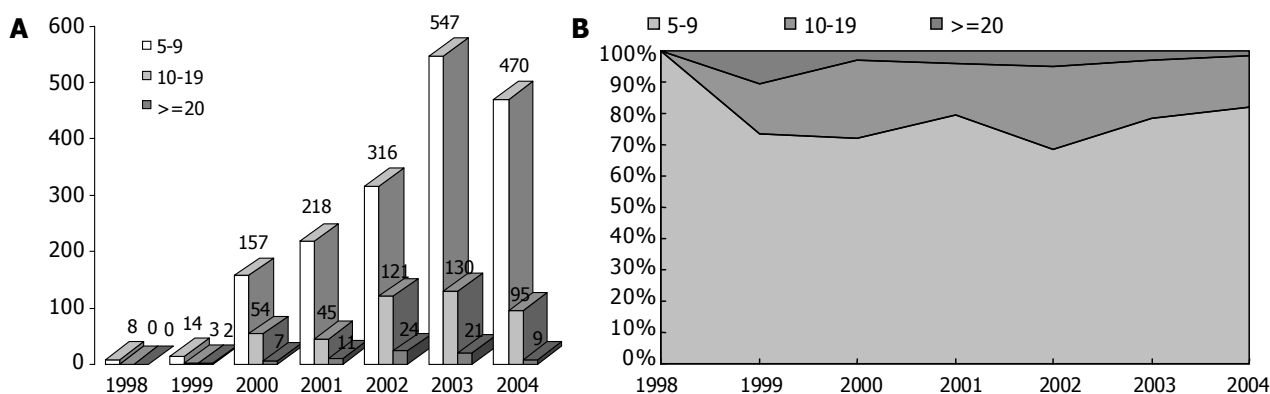
**Figure 5** Total citations of *WJG* articles by other SCI journals (A) and the citations by other SCI journals per article (B).



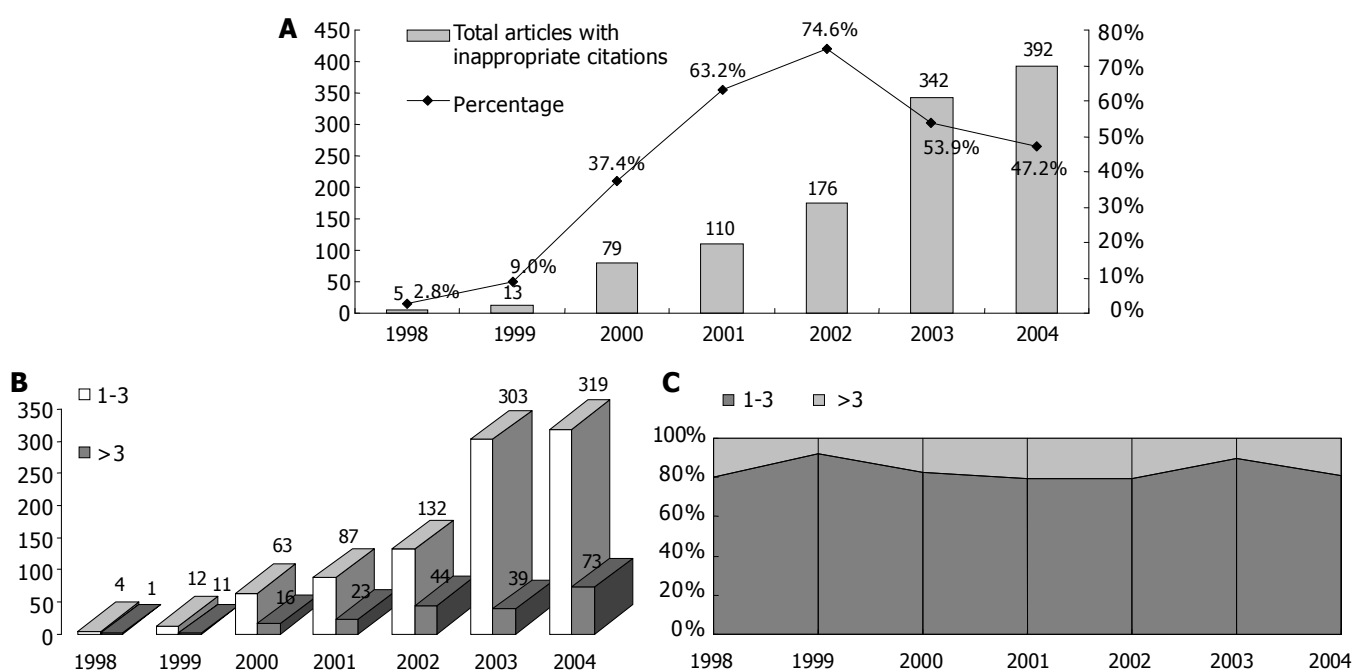
**Figure 6** *WJG* self-citation rate and citation rate of *WJG* articles by other SCI journals.



**Figure 7** Total number of inappropriate citations (A) and number of inappropriate citations per article (B).



**Figure 8** Annual number of inappropriate citations within the three subsections (A), and the percentage of inappropriate citations within the three subsections (B) during 1998-2004, as determined by the subsection analysis of the differences between the two sides of the hyphens.



**Figure 9** Annual number of articles with inappropriate citations (A), annual number of inappropriate citations within the two frequency subsections (B), and the percentage of inappropriate citations within the two frequency subsections (C) during 1998-2004.

extent of inappropriate citations. Three subsections with the differences of 5-9, 10-19 and  $\geq 20$  were defined in the analysis. It was observed that most inappropriate citations were located in the first subsection (Figure 8A). Since 1999, the proportions of inappropriate citations within the three subsections has been approximately 7:2:1 (Figure 8B).

**Subsection analysis of the frequency** Subsection analysis of the frequency was carried out to reveal the frequency of inappropriate citations in the articles. Two subsections with the inappropriate citations of 1-3 and  $\geq 3$  per article were defined in the analysis. There were 5, 13, 79, 111, 176, 342 and 392 articles with inappropriate citations, respectively, in 1998, 1999, 2000, 2001, 2002, 2003 and 2004 (Figure 9A). It was observed that most inappropriate citations were located in the first subsection (Figure 9B). Since 1999, the proportions of inappropriate citations within the two subsections have been approximately 4:1 (Figure 9C).

174, 236, 634 and 830 articles, respectively, in 1998, 1999, 2000, 2001, 2002, 2003 and 2004. The number in 2004 increased by 594, compared with that in 2002, giving a rate of increase 251.7%.

- Annual references cited by *WJG*: *WJG* cited 2 123, 2 125, 6 244, 8 883, 11 442, 23 218 and 25 971 references, respectively, in 1998, 1999, 2000, 2001, 2002, 2003 and 2004. The number was 31.3 per article in 2004, which was less than that (48.5) in 2002, giving a reduction rate of 35.5%.
- Annual number of authors' self-citations: Authors of *WJG* cited 125, 126, 343, 210, 354, 310 and 470 of their own published articles, respectively, in 1998, 1999, 2000, 2001, 2002, 2003 and 2004. The number of authors' self-citations per article was 0.57 in 2004, which was a decrease of 0.93 or 62.0%, compared with that in 2002.
- Annual number of journal's self-citation: Authors of *WJG* articles cited 5, 7, 373, 733, 1474, 1947 and 1412 of *WJG*

## SUMMARY

- Annual published articles: *WJG* published 179, 144, 211,

articles, respectively, in 1998, 1999, 2000, 2001, 2002, 2003 and 2004. The number of journal's self-citations per article was 1.70 in 2004, a decrease of 4.55 or 72.8%.

- Annual citations of *WJG* articles by other SCI journals: No *WJG* article was cited in 1998 by other SCI journals. However, the number of citations steadily increased afterwards, with 16, 18, 39, 85, 372 and 580, respectively, in 1999, 2000, 2001, 2002, 2003 and 2004. The number of citations by other SCI journals per article was 0.11, 0.09, 0.22, 0.36, 0.59 and 1.06 per *WJG* article, respectively, in 1999, 2000, 2001, 2002, 2003 and 2004 (January-August). There was an increase of 582%, when comparing the citation numbers between 2002 and 2004.
- Annual *WJG* self-citation rates and citation rates of *WJG* articles by other SCI journals: *WJG* self-citation rates were 30.43%, 95.40%, 95.07%, 94.55%, 83.96% and 67.47% respectively in 1999, 2000, 2001, 2002, 2003 and 2004 (January-August). Compared to 2002, the self-citation rate in 2004 decreased by 26.87%. The citation rates of *WJG* articles by other SCI journals were 69.57%, 4.60%, 4.93%, 5.45%, 16.04%, and 32.53% respectively in 1999, 2000, 2001, 2002, 2003 and 2004 (January-August). Compared to 2002, the citation rate in 2004 increased by 26.87%.
- Annual inappropriate citations: There were 8, 19, 218, 274, 461, 698 and 574 inappropriate citations, respectively, in 1998, 1999, 2000, 2001, 2002, 2003 and 2004. The

inappropriate citation per article in 2004 was 0.69, which represents a decrease of 1.26, compared to that in 2002. Inappropriate citations were mostly those with the differences between the two sides of the hyphens of 5-9, and the proportion of inappropriate citations within the three subsections of the differences between the two sides of the hyphens (5-9, 10-19, and  $\geq 20$ ) was approximately 7:2:1. In addition, inappropriate citations mostly occurred with frequencies of 1-3 in the articles, and the proportions of inappropriate citations within the two frequency subsections (1-3 and  $>3$ ) have been approximately 4:1 since 1999.

## CONCLUSIONS

In 2004, the numbers of reference citations per article, authors' self-citations per article and journal's self-citations per article were 31.3, 0.57 and 1.70, respectively, which represent a decrease of 35.5%, 62.0%, and 72.8% in the numbers, compared to the corresponding numbers in 2002. *WJG* self-citation rate was 67.47% in 2004 (January-August), a decrease of 26.87% compared to that in 2002. The citation rate of *WJG* articles by other SCI journals was 32.53% in 2004 (January-August), which was an increase of 26.87% compared to that in 2002. The inappropriate citations (0.69 per article) in 2004 represented a decrease of 1.26, compared with that in 2002. These figures demonstrate that the overall citation status of *WJG* is improving.

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## A few suggestions to *World Journal of Gastroenterology*

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<http://www.wjgnet.com/1007-9327/11/6.asp>

### To the Editor,

It is of great pleasure to learn that *WJG* has developed into one of the important journals to the field of gastroenterology studies worldwide. Thank you for providing such an excellent platform for scholars to exhibit their hard work and fruitful results. It is also a very good chance for western scholars to learn of the advances in digestive disease studies performed inside China. Hopefully, more and more scholars around the world will come to realize that *WJG* is a journal worth reading. I visit the *WJG* website now and then to catch up with gastrointestinal research advances inside China. I have two small suggestions here for your reference. First is a layout issue. In the articles, some of the lines are loose and some are tight, it is unappealing to look at and difficult to read. I finally realized that you didn't truncate the words by syllable where it is necessary. This is usually done in other international journals. Microsoft Word software has an auto word-wrap function. Sometimes, my friends here would ask me to explain something printed on the wrap of made-in-China things which was written in "Chinglish" and with obvious mistakes. That embarrassed me so much. Next time, when I introduce *WJG* to my friends or colleagues, are they going to say: "Oh! Look at those lines! "? Second, the speed of *WJG* website is too slow. How about speeding it up?

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