Papers featured in the *World Journal of Gastroenterology* from 2006 to 2007

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**Abstract**

**AIM:** To analyze papers published in the *World Journal of Gastroenterology (WJG)* from 2006 to 2007. We investigated the highly cited papers for geographic distribution of the cited authors, as well as the distribution of the citing journals and year of citation.

**METHODS:** Papers published in *WJG* from 2006 to 2007 and their citations were retrieved from the Science Citation Index Expanded (SCIE). The papers and their citations were analyzed according to bibliometric methods, including the number of citations for a given paper, the distribution of the highly cited papers, the geographic distribution of the cited authors, and the years of citation.

**RESULTS:** Two thousand five hundred and six papers published in *WJG* from 2006 to 2007 were collected through SCIE, and 2335 of these were categorized as articles, reviews or proceedings. In 2006 and 2007, the average citation rate was 85.08% and 70.48%, respectively, and the average number of citations per paper was 4.33 and 2.51. Among the 2506 papers, 1963 were cited 8788 times by other articles. The mean number of citations per paper was 3.51. The papers with over three citations accounted for 54.72% of all those that were cited, and the total number of citations accounted for 85.38% of the total of 8788 citations. Thirteen papers were cited over 30 times and the highest number of citations for any one paper was 98. The cited authors came from 70 different countries or regions, with China, Japan and the United States being the most frequent. The highest average citation rate and number of citations per paper were for authors from Canada (96.30%, 6.89), Hungary (92.31%, 5.62), Australia (88.46%, 5.46), Germany (87.04%, 5.33), and Spain (87.50%, 5.11). The impact factor was 2.081 and the self-citation rate was 9.41% in 2008. The papers published in *WJG* in 2006-2007 were cited by 1597 journals.

**CONCLUSION:** The papers in *WJG* have a high number of citations, and have been cited in numerous journals by authors from various countries. The results imply that *WJG* has an influential academic profile in gastroenterology around the world.

**Key words:** Citation analysis; Bibliometrics; *World Journal of Gastroenterology*

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**INTRODUCTION**

In the natural sciences, especially in basic and life sciences, journals have never attracted more attention. The content and academic quality of journals is emphasized, and the academic profile of a journal can be evaluated through citation analysis of a given journal's papers, as well as the journal impact factor. The pertinent indexes for evaluating a scientific journal involve the publisher of the journal, its academic background, reputation of the authors, the number of times that papers are cited, and the journal impact factor[3]. Some of these indexes may evaluate subjectively the journal impact in a qualitative manner, and some may measure quantitatively the general profile or average level of the
journal papers[3]. The reputation of scientific journals, types of papers in a given journal, the number of papers in a given journal, the citation rate, and the number of times each paper is cited are all essential indicators of the quality of scientific journals.

The current study analyzed several features of papers published in *World Journal of Gastroenterology (WJG)*, including the citation rate of the published papers, the average number of times a given paper was cited, the geographic distribution of the cited authors, the year of citation, and the distribution of the citing journals so that we can understand the character of *WJG*. The results will be of interest to the editors of *WJG* and its readers.

### MATERIALS AND METHODS

The Science Citation Index Expanded (SCIE) is a sophisticated database established by the Institute for Scientific Information[3], and is an essential tool for evaluating papers in renowned journals. The current study analyzed features of papers published in *WJG* with the aid of the search function of the SCIE.

The SCIE was accessed with the Web of Science. SCIE was searched using “World Journal of Gastroenterology” for the publication title and “2006-2007” for publication year. From the papers retrieved, we selected the following information: author(s), title, source, document type, address, cited times and ISSN. The retrieved data were downloaded, saved and managed with the Microsoft Excel.

There were some limitations to the data process: (1) we analyzed only the address of the corresponding author, and not that of all the authors in the paper; and (2) all the papers from *WJG* and their references were retrieved on May 4, 2009.

### RESULTS

**Outline of papers published in WJG 2006-2007**

Two thousand five hundred and six papers were published in *WJG* in 2006-2007, including 1311 papers from the categories of article, review and proceedings in 2006 and 1024 from these categories in 2007. Among these papers, 1963 were cited 8788 times by SCIE. The mean number of citations was 3.51 per paper. The highest number of citations for any one paper was 98. The papers with one citation accounted for 25.11% of the total number of cited papers; those with two, 20.17%; those with three, 54.72%; and those with over three, 85.38% (Table 1). Thirteen papers were cited over 30 times (Table 2).

**Citation analysis of papers published in WJG 2006-2007**

Among the 2506 papers, nine belonged to the “other” category, which included author’s feedback, book reviews, commentaries, editorial announcements, memorials, and news. Within the other 15 categories in *WJG*, viral hepatitis, reviews and editorials had high citation rates of 92.73%, 92.86% and 92.31%, respectively. The highest average number of citations for the top three columns was 8.89 for reviews, 6.43 for editorials, and 6.00 for topic highlights. The citation rates for case reports and letters to the editor were low, at 64.15% and 54.55%, respectively. Their average number of citations was 1.66 and 1.43, respectively, which were far lower than the total citation rate (78.33%) and average number of citations (3.51) (Table 3). In 2006 and 2007, the total citation rate (with the “other” category excluded) was 85.08% and 70.48%, and the total average number of citations was 4.33 and 2.51.

**Geographic distribution of cited authors**

The cited authors came from 70 countries. Twenty-nine countries or areas had over 10 cited papers, 11 countries between 5-9 papers, and 29 countries 1-4 papers. China, Japan and the United States were ranked as the top three countries according to the highest total number of citations. The countries with the highest citation rates and average number of citations per paper included Canada (96.30% and 6.89), Hungary (92.31% and 5.62), Australia (88.46% and 5.46), Germany (87.04% and 5.33), and Spain (87.50% and 5.11) (Table 4).

**Year of citation for papers published in WJG 2006-2007**

The year of citation is shown in Table 5. In 2008, papers published in 2006 and 2007 were cited 3079 and 1780 times, respectively. In 2009, the figures so far are 1101 and 931, respectively. From 2006 to 2009, the self citation rate was 22.16%, 11.33%, 9.41% and 5.01%, respectively.

**Distribution of citing journals**

The 8788 citations from *WJG* 2006-2007 were in 1597 journals (Table 6). The *American Journal of Gastroenterology*, *Alimentary Pharmacology & Therapeutics*, *Gastrointestinal Endoscopy* cited papers from *WJG* most often. Twelve journals each had 40-49 citations from *WJG*, nine journals had 30-39 citations, 27 journals had 20-29 citations, 115 journals had 10-19 citations, 245 journals

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**Table 1** Citation frequency of papers published in *WJG* 2006-2007

| Cited times | No. of cited articles | No. of cited times |
|-------------|-----------------------|--------------------|
| Count      | Percent (%)           | Count              | Percent (%)       |
| 1          | 493                  | 25.11              | 493               | 5.61              |
| 2          | 396                  | 20.17              | 792               | 9.01              |
| 3          | 270                  | 13.75              | 810               | 9.22              |
| 4          | 175                  | 8.91               | 700               | 7.97              |
| 5          | 160                  | 8.15               | 800               | 9.10              |
| 6          | 107                  | 5.45               | 642               | 7.31              |
| 7          | 77                   | 3.92               | 539               | 6.13              |
| 8          | 56                   | 2.85               | 448               | 5.10              |
| 9          | 41                   | 2.09               | 369               | 4.20              |
| 10         | 42                   | 2.14               | 420               | 4.78              |
| 11-20      | 111                  | 5.65               | 1720              | 19.57             |
| 21-30      | 23                   | 1.17               | 546               | 6.21              |
| 31-40      | 9                    | 0.46               | 316               | 3.60              |
| 41-100     | 3                    | 0.15               | 193               | 2.20              |
| Total      | 1963                 | 100.00             | 8788              | 100.00            |

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had 5–9 citations, 115 journals had four citations, 172 journals had three citations, 285 journals had two citations; and 598 journals had only one citation. These citations were in a wide range of related journals, which implies that WJG has a widespread academic impact.

### DISCUSSION

The frequency with which papers from a given journal are cited is a measure of the academic profile and quality of the journal. It is accepted widely that the academic quality of a journal is correlated positively with number of cited numbers in the journal. In citation analysis of papers published from 2006 to 2007 in WJG, 78.33% of all published papers were cited by a journal included in SCIE. Table 1 shows that 1074 papers were cited more than three times, with a total of 7503 citations. These accounted for 54.72% of all papers and 85.38% of the total number of citations. The highest number of citations for one paper was 98, and papers that were cited more than four times accounted for 40.96%.

The use of subsections or categories is useful for reflecting the scope of a given journal. The editors need periodically to evaluate their choice of subsections to facilitate development of the journal, enable academic exchange and attract the attention of readers with different information needs. Among all the categories in WJG, reviews, editorials, topic highlights and esophageal cancer were of most interest to readers. Papers in these categories showed a high citation rate and high average number of citations. However, the categories of H pylori, rapid communications, case reports, letters to the editor and leading articles had fewer citations, which may have resulted from the types of papers and current research trends, and deserves further attention from the journal editors.

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Table 2  List of papers published in WJG 2006-2007 with over 30 citations

| Rank | First author | Title | Sources | Cited times |
|------|--------------|-------|---------|-------------|
| 1    | Crew KD      | Epidemiology of gastric cancer | 12(3): 354-362, 2006 | 98 |
| 2    | Sebastiani G | Non invasive fibrosis biomarkers reduce but not substitute the need for liver biopsy | 12(23): 3682-3694, 2006 | 53 |
| 3    | Kim KP       | Diagnostic criteria for autoimmune chronic pancreatitis revisited | 12(16): 2487-2496, 2006 | 42 |
| 4    | Tamura G     | Alterations of tumor suppressor and tumor-related genes in the development and progression of gastric cancer | 12(2): 192-198, 2006 | 40 |
| 5    | Alter MJ     | Epidemiology of hepatitis C virus infection | 13(17): 2436-2441, 2007 | 39 |
| 6    | Dietrich CF  | Assessment of metastatic liver disease in patients with primary extrahepatic tumors by contrast-enhanced sonography versus CT & MRI | 12(11): 1699-1705, 2006 | 36 |
| 7    | Smith MG     | Cellular and molecular aspects of gastric cancer | 12(19): 2979-2990, 2006 | 36 |
| 8    | Lakatos PL   | Recent trends in the epidemiology of inflammatory bowel diseases: Up or down? | 12(38): 6102-6108, 2006 | 35 |
| 9    | Engwegen JYMN| Identification of serum proteins discriminating colorectal cancer patients and healthy controls using surface-enhanced laser desorption ionisation-time of flight mass spectrometry | 12(10): 1536-1544, 2006 | 34 |
| 10   | Glebe D      | Viral and cellular determinants involved in hepadnaviral entry | 13(1): 22-38, 2007 | 34 |
| 11   | Hocke M      | Contrast-enhanced endoscopic ultrasound in differentiation between focal pancreatitis and pancreatic cancer | 12(2): 246-250, 2006 | 31 |
| 12   | Schaefer S   | Hepatitis B virus taxonomy and hepatitis B virus genotypes | 13(1): 14-21, 2007 | 31 |
| 13   | Danese S     | Etiopathogenesis of inflammatory bowel diseases | 12(30): 4807-4812, 2006 | 30 |

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Table 3  Papers and their frequency of citation, according to category

| Category               | 2006 | 2007 | Total |
|------------------------|------|------|-------|
|                        | No. of papers | Papers cited | Cited times | No. of papers | Papers cited | Cited times | Count of papers | Papers cited | Cited times | Total citation rate | Total cited times |
| Basic research         | 178  | 154  | 682   | 88      | 63   | 219   | 266       | 217       | 901       | 81.58            | 3.39             |
| Case reports           | 216  | 167  | 477   | 208     | 105  | 226   | 424       | 272       | 703       | 64.15            | 1.66             |
| Clinical research      | 93   | 84   | 454   | 67      | 49   | 176   | 160       | 133       | 630       | 83.13            | 3.94             |
| Colorectal cancer      | 37   | 36   | 152   | 22      | 18   | 56    | 59        | 54        | 208       | 91.53            | 3.53             |
| Editorial              | 85   | 82   | 664   | 58      | 50   | 255   | 143       | 132       | 919       | 92.31            | 6.43             |
| Esophageal cancer      | 10   | 9    | 53    | 4       | 3    | 11    | 14        | 12        | 64        | 85.71            | 4.57             |
| Gastric cancer         | 41   | 39   | 200   | 23      | 17   | 48    | 64        | 56        | 248       | 87.50            | 3.88             |
| H pylori               | 17   | 14   | 34    | 10      | 9    | 15    | 27        | 23        | 49        | 85.19            | 1.81             |
| Leading article        | 1    | 1    | 2     | 0       | 1    | 1     | 2         | 1         | 2         | 100.00           | 2.00             |
| Letters to the editor  | 18   | 10   | 41    | 26      | 14   | 22    | 44        | 24        | 65        | 54.55            | 1.43             |
| Liver cancer (cirrhosis)| 34   | 30   | 171   | 27      | 21   | 59    | 61        | 51        | 230       | 83.61            | 3.77             |
| Rapid communications   | 475  | 383  | 1593  | 391     | 268  | 773   | 866       | 651       | 2666      | 75.17            | 2.73             |
| Reviews                | 75   | 72   | 860   | 37      | 32   | 136   | 112       | 104       | 996       | 92.86            | 8.89             |
| Topic highlights        | 70   | 62   | 482   | 132     | 120  | 731   | 202       | 182       | 1213      | 90.10            | 6.00             |
| Viral hepatitis         | 37   | 37   | 134   | 18      | 14   | 62    | 55        | 51        | 196       | 92.73            | 3.56             |
| Other                  | 1    | 0    | 0     | 7       | 0    | 8     | 8         | 0         | 0         | 0.00             | 0.00             |
| Total                  | 1388 | 1180 | 5999  | 1118    | 783  | 2789  | 2506      | 1963      | 8788      | 78.33            | 3.51             |

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The authors of articles published in *WJG* were from a wide range of countries. From 2006 to 2007, China, Japan, Germany, Italy, USA and Turkey were ranked the top six countries by the number of papers and total number of citations\(^6\). The authors cited in *WJG* were also from a large range of 70 countries or regions. The papers written by authors from Canada, Hungary, Australia, Germany and Spain also had a high number of citations.

The impact factor is a routine bibliometric index to evaluate the academic profile of journals. Similar to the number of cited papers, the impact factor is correlated positively with the academic impact. According to the criteria for measuring the impact factor in the Journal Citation Report, only the paper types of article, review, and proceedings are taken into account for calculations.

The impact factor of *WJG* in 2008 was 2.081 \(\left[\frac{3079 + 1780}{1311 + 1024}\right] = 2.081\). Regarding publication year, the number of times a paper was cited was low in the year of publication. In the following 2 years, the number of citations increased rapidly, which is consistent with the finding that the peak number of citations is within 2 or 3 years for most publications\(^6\).\(^7\).

The number of journals that cite papers from a given journal reflects the academic profile of the journal, its influence, its impact on some specialties, and its attraction to readers from different fields. The papers published in *WJG* in 2006-2007 were cited 8788 times in 1597 journals. Given the wide range of citing papers and journals, as well as the large proportion of citations in the same field, it is clear that *WJG* has a widespread influence.

In conclusion, the setting of the subsections in *WJG* is appropriate. With a high self-citation rate, and citations in papers from different countries and different journals,
it appears that WJG is already on the right road and its academic impact and profile are expanding gradually.

REFERENCES

1 Egghe L, Rousseau R. Average and global impact of a set of journals. Scientometrics 1996; 36: 97-107
2 Hansson S. Impact factor as a misleading tool in evaluation of medical journals. Lancet 1995; 346: 906
3 SCIE. Available from: URL: http://www.isinet.com/cgi-bin/jmlst/jlsubcatg.cgi?PC=D
4 Yang H, Lun ZJ. A citation analysis of progress in biochemistry and biophysics 2000 similar to 2005. Shengwu Huaxue Yu Shengwu Wuli Jinzhan 2006; 33: 596-601
5 Yang H, Zhao YY. Variations of author origins in World Journal of Gastroenterology during 2001-2007. World J Gastroenterol 2008; 14: 3108-3111
6 Yang H, Pan BC. Citation classics in fertility and sterility, 1975-2004. Shengyu Yu Buyun 2006; 86: 795-797
7 Yang H. The Top 40 citation classics in the Journal of the American Society for Information Science and Technology. Scientometrics 2009; 78: 421-426

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