Record citations in 2011 contribute to maintenance of the impact factor of BJN

In late June 2012, the Institute for Scientific Information (ISI) released its annual statistics on citations of articles published in previous years in scientific journals. A number of different summary statistics are produced by the ISI, the most widely discussed being the impact factor. I have used previous editorials to keep readers informed of the most recent statistics for the BJN and to analyse them in relation to those of comparator journals and to temporal changes (1–7). The BJN is listed in the Nutrition and Dietetics category of ISI Journal Citation Reports®. In 2011, there were seventy-two journals listed in this category, including review journals and journals in the areas of obesity (e.g. International Journal of Obesity, Obesity) and lipidology (e.g. Progress in Lipid Research, Lipids). The impact factor of a journal is calculated as the number of citations of papers published in the previous 2 years divided by the number of papers published in those 2 years. Thus, the impact factor for 2011 (issued in 2012) is based upon the number of citations during 2011 of papers published in a particular journal in 2009 and 2010 divided by the number of papers published in that journal in 2009 and 2010. Clearly, this favours very rapidly moving areas of research. Hence, journals such as Nature, Cell and Science have high impact factors (36·28, 32·40 and 31·20, respectively, for 2011). For the past 10 years, the two highest ranked journals in the Nutrition and Dietetics category have been Progress in Lipid Research and Annual Reviews in Nutrition, and with impact factors of 10·67 and 9·45, respectively, for 2011. Table 1 lists the impact factors for the BJN and nine comparator journals over the period 2001–11 inclusive. The comparator journals all publish a similar range of material as does the BJN, including molecular, cellular, whole body, human, clinical, public health and experimental animal nutrition and, in most cases, also farm animal nutrition. It is evident that the American Journal of Clinical Nutrition is firmly established as the highest ranked journal in this category that is not solely limited to publishing review articles. In 2011, the impact factor of the BJN remained almost the same as in 2010 (3·01 v. 3·07), representing 2823 citations in 2011 to the 937 articles published in 2009 and 2010. Maintaining an impact factor above 3 is important, keeping the BJN in the top 30% of journals in this growing category. Readers may be interested in the impact factors of our sister journals: 4·84, 2·77 and 2·17 for Nutrition Research Reviews (ranked 4/72), Proceedings of the Nutrition Society (ranked 23/72) and Public Health Nutrition (ranked 34/72), respectively. Table 2 lists the articles published in the BJN during 2009 and 2010 that were most highly cited in 2011 (8–27). This table indicates the importance of review and supplement articles, in addition to research papers, to the impact factor of the journal. Although the articles published in 2009 continue to be cited (Table 2), they will not contribute to the impact factor for 2012, which will be based upon articles published in 2010 and 2011.

One argument against the importance of the impact factor in indicating the value of a journal is that the time frame over which it is calculated is too short to really reflect the impact that the articles that a journal publishes will have. Thus, alternative measures of article citations are available. These include the total number of citations made to articles published in a journal, the 5-year impact factor and the cited half-life of articles. Table 3 lists the total number of citations made to articles published in the BJN, irrespective of their year of publication, during the years 2000–11. In 2011, articles published in the BJN were cited 15 036 times, placing the BJN fifth in the Nutrition and Dietetics category for total citations in 2011. The total number of citations of articles in the journal has increased year-on-year and increased by 7% from 2010 and by over 170% since 2000. The cited half-life of a journal (Table 3) is the median age of the articles published in that journal that are cited in the reporting year. Thus, publication of articles that remain important (or controversial) long after they are published will result in a long cited half-life. The cited half-life of the BJN has increased year-on-year (e.g. 2011) by papers published in that same year. It is a measure of how immediately important (or controversial) published papers are. For 2011, the immediacy index of the BJN was 0·519 (245 citations in 2011 out of 472 articles published in 2011). In 2008, the immediacy index of the BJN was 0·519 (245 citations in 2011 out of 472 articles published in 2011). In 2008, the 5-year impact factor was 8·2 and 8·9 years, respectively. The immediacy index is calculated as citations of articles published in the reporting year (e.g. 2011) by papers published in that same year. It is a measure of how immediately important (or controversial) published papers are. For 2011, the immediacy index of the BJN was 0·519 (245 citations in 2011 out of 472 articles published in 2011). In 2008, the 5-year impact factor was calculated for the first time; this is the number of citations in the year to articles published in the previous five years. For 2011, the 5-year impact factor of the BJN was 3·34.
(6517 citations in 2010 to 1950 articles published in 2006–10 inclusive), placing it eighteenth in the Nutrition and Dietetics category. For comparison, 5-year impact factors for the American Journal of Clinical Nutrition and the Journal of Nutrition for 2011 were 7·37 and 4·36, respectively. The final statistic shown in Table 3 is the Eigenfactor™ score. This is a complex calculation, which, like the impact factor, is a ratio of the number of citations to the total number of articles published. However, unlike the impact factor, the Eigenfactor™ score counts citations to journals in both the sciences and social sciences, eliminates self-citations (i.e. every reference from one article to another article from the same journal is discounted) and weights each reference according to a measure of the amount of time researchers spend reading the journal (http://www.eigenfactor.org/methods.htm). For 2011, the Eigenfactor™ score of the BJN was 0·950, placing it seventeenth in the Nutrition and Dietetics category. For comparison, Article Influence™ scores for the American Journal of Clinical Nutrition and the Journal of Nutrition for 2011 were 2·378 and 1·263, respectively.

Another relatively new statistic is the Article Influence™ score, which calculates the relative importance of the journal on a per-article basis. It is the journal's Eigenfactor™ score divided by the fraction of articles within the category published by that journal. That fraction is normalised so that the mean Article Influence™ score within the category is 1·00. A score greater than 1·00 indicates that each article in the journal has above-average influence, while a score less than 1·00 indicates that each article in the journal has below-average influence. For 2011, the Article Influence™ score of the BJN was 0·950, placing it seventeenth in the Nutrition and Dietetics category. For comparison, Article Influence™ scores for the American Journal of Clinical Nutrition and the Journal of Nutrition for 2011 were 2·378 and 1·263, respectively.

My overall view based upon these statistics is that the BJN is doing well, but could do better. As I indicated previously, the BJN is receiving more submissions and is publishing more articles than ever before(26). This suggests that the journal is in good health and is viewed favourably by researchers within the discipline. My aim is to act to further improve the impact factor, the 5-year impact factor and the Article Influence™ score in order that the prestige and attractiveness

### Table 1. Impact factor of the British Journal of Nutrition and comparator journals over the period 2001–11*

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<tbody>
<tr>
<td>2001</td>
<td>5·02</td>
<td>5·66 (3/50)</td>
<td>5·69</td>
<td>5·43</td>
<td>5·85</td>
<td>6·56 (3/55)</td>
<td>6·60</td>
<td>6·74</td>
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<tr>
<td>2002</td>
<td>5·63</td>
<td>5·61 (3/50)</td>
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<td>6·42</td>
<td>6·80</td>
<td>7·36 (3/55)</td>
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<td>7·16</td>
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<td>5·43</td>
<td>5·43 (3/50)</td>
<td>6·46</td>
<td>6·35</td>
<td>6·90</td>
<td>7·35 (3/55)</td>
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<td>2004</td>
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<td>5·85 (3/50)</td>
<td>6·59</td>
<td>6·56</td>
<td>7·00</td>
<td>7·46 (3/55)</td>
<td>7·17</td>
<td>7·16</td>
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<td>2005</td>
<td>6·55</td>
<td>6·55 (3/50)</td>
<td>6·55</td>
<td>6·55</td>
<td>7·00</td>
<td>7·46 (3/55)</td>
<td>7·17</td>
<td>7·16</td>
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<td>2006</td>
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<td>6·55</td>
<td>6·55</td>
<td>7·00</td>
<td>7·46 (3/55)</td>
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<tr>
<td>2007</td>
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<td>2011</td>
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<td>7·46 (3/55)</td>
<td>7·17</td>
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</table>

* Data are from the ISI Journal Citation Reports®.  
† Ranking among journals in the Nutrition and Dietetics subject category.

### Table 2. Articles published in the British Journal of Nutrition in 2009 and 2010 that were most highly cited in 2011*

<table>
<thead>
<tr>
<th>Type of article</th>
<th>Citations in 2011</th>
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<td>Research paper</td>
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<tr>
<td>Research paper</td>
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<tr>
<td>Research paper</td>
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<td>28</td>
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<tr>
<td>Review</td>
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<tr>
<td>Research paper</td>
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<tr>
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<td>Research paper</td>
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</table>

* Data were obtained from the ISI Web of Science® on 9 July 2012.
of the BJN are maintained in the face of mounting competition from other journals, and that its perceived quality is enhanced. An improvement in (perceived) quality of the BJN will assure its place among the top journals in the field.

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References