

SPECIAL ARTICLE

Progress of the Journal of the Balkan Union of Oncology in the second decade of its existence

Ljiljana Vuckovic-Dekic¹, Dusica Gavrilovic²

¹Academy of Medical Sciences, Serbian Medical Society, Belgrade, Serbia; ²Institute for Oncology and Radiology of Serbia, Belgrade, Serbia

Summary

Purpose: To investigate the progress of the Journal of the Balkan Union of Oncology (JBUON) in the second decade of its existence.

Methods: We investigated 10 volumes of JBUON, consisting of 42 issues, with regard to the number and category of articles, the contribution of authors from Balkan and non-Balkan countries, and the (co)authorship in published articles.

Results: In period 2006-2015, 1407 articles of different categories were published in JBUON. Most were original articles. In 2009, JBUON became listed in Science Citation Index (SCI) database and gained impact factor (IF). After that, the

values of some investigated parameters (e.g. submission rate, total number of papers and the number of original articles) correlated with constant rise of the IF value.

Conclusion: During the second decade of JBUON the journal has been gradually progressing in regard to the submission rate, the percentage of original papers, contribution of more countries other than Balkan countries, and the number of authors per article. This progress is the consequence of indexing in the SCI list in 2009, and to steadily rise of the IF value.

Key words: authorship, bibliometrics, multi-authorship, scientific journal

Introduction

In 2015, the official journal of the Balkan Union of Oncology (JBUON) celebrated its twentieth anniversary. During these 20 years, JBUON gradually achieved to be indexed in most important databases, which was the goal of the editorial board from the very beginning [1]. Some of the databases covered JBUON in the first decade of its existence [2], but the most important indexing database - SCI - included JBUON in the SCI list in the middle of its second decade [3].

Simple scientometric analysis of the first decade of JBUON was related to the contribution of

the authors from each BUON country to the total number of articles published in JBUON [2]. In our next analysis [3], we calculated the number of contributions of authors from both Balkan and non-Balkan countries in the first 9 years of the second decade of JBUON, and the average number of co-authors of original papers.

In this paper, we analyzed the second decade of JBUON regarding the number of issues in volumes, quantity and type of published articles, and the country from which the authors originated. The number of authors per article was also analyzed.

Methods

Ten volumes of JBUON (No. 11-20; four issues in 9 volumes; 6 issues in volume 10; total n=42 issues) were analyzed regarding the total number of published articles and according to category of the articles: original papers, review articles, case reports, letters to the editor, special series, history of oncology, and short communications. In addition, the IF gained from 2006 to 2015, and the contribution of authors from Balkan countries, from non-Balkan countries, and from both Balkan and

non-Balkan countries was analyzed. The number of authors per published original article in the investigated period was also analyzed.

Measures of descriptive statistics (frequency, percentage, mean, standard deviation (SD), median and range) were used according to variables type. Statistical analyses were done using program R (version 3.3.2 (2016-10-31) -- "Sincere Pumpkin Patch"; Copyright (C) 2016; The R Foundation for Statistical Computing; Platform: x86_64-w64-mingw32/x64 (64-bit); downloaded: January 21, 2017).

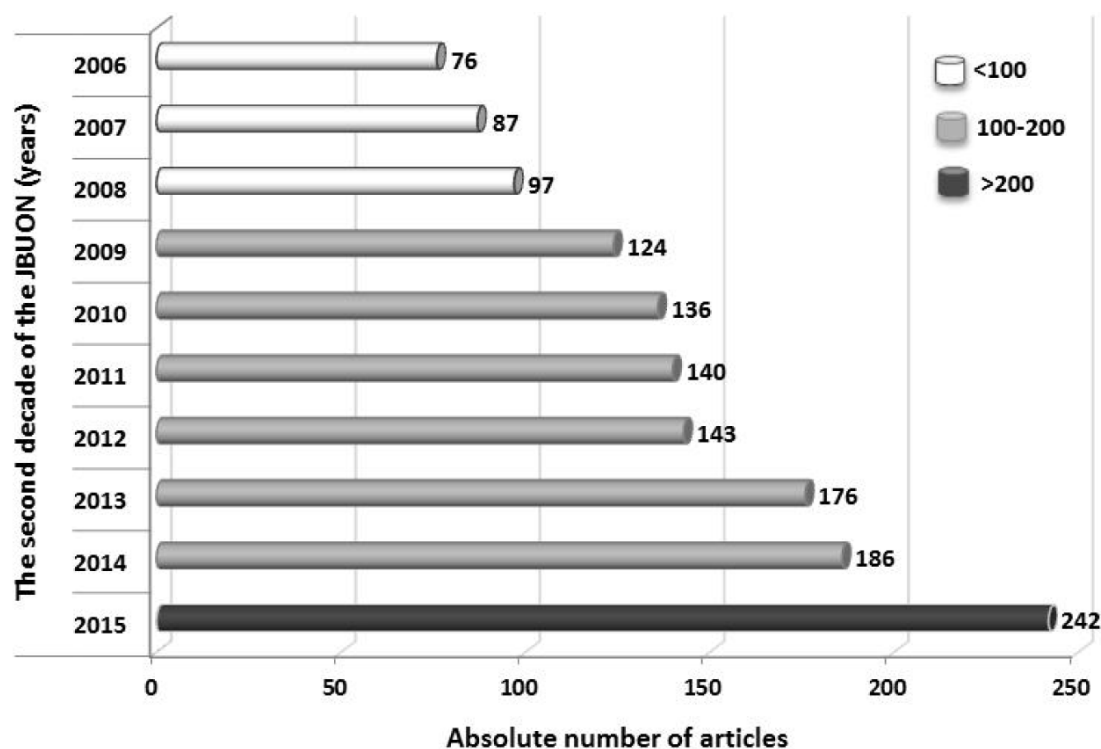


Figure 1. Absolute number of articles published in 10 volumes of JBUON.

Table 1. Absolute number and percentage of articles published in the second decade of J BUON

Year	Types of articles - n (%)							Total
	Original articles	Review articles	Case reports	*Letters to the editor	Special series	History of oncology	*Short communication	
2006	44 (57.9)	5 (6.6)	16 (21.1)	-	7 (9.2)	4 (5.3)	-	76 (100)
2007	47 (54)	9 (10.3)	16 (18.4)	6 (6.9)	5 (5.7)	4 (4.6)	-	87 (100)
2008	47 (48.5)	15 (15.5)	25 (25.8)	-	3 (3.1)	4 (4.1)	3 (3.1)	97 (100)
2009	59 (47.6)	17 (13.7)	26 (21)	6 (4.8)	3 (2.4)	5 (4)	8 (6.5)	124 (100)
2010	96 (70.6)	14 (10.3)	8 (5.9)	9 (6.6)	3 (2.2)	4 (2.9)	2 (1.5)	136 (100)
2011	95 (67.9)	17 (12.1)	17 (12.1)	4 (2.9)	2 (1.4)	4 (2.9)	1 (0.7)	140 (100)
2012	99 (69.2)	15 (10.5)	10 (7)	6 (4.2)	5 (3.5)	4 (2.8)	4 (2.8)	143 (100)
2013	138 (78.4)	10 (5.7)	8 (4.5)	11 (6.3)	4 (2.3)	4 (2.3)	1 (0.6)	176 (100)
2014	138 (74.2)	20 (10.8)	15 (8.1)	6 (3.2)	1 (0.5)	4 (2.2)	2 (1.1)	186 (100)
2015	195 (80.6)	13 (5.4)	15 (6.2)	4 (1.7)	6 (2.5)	7 (2.9)	2 (0.8)	242 (100)
Total	958 (68.1)	135 (9.6)	156 (11.1)	52 (3.7)	39 (2.8)	44 (3.1)	23 (1.6)	1407 (100)

*Short communication and Letters to the editor – only with original results

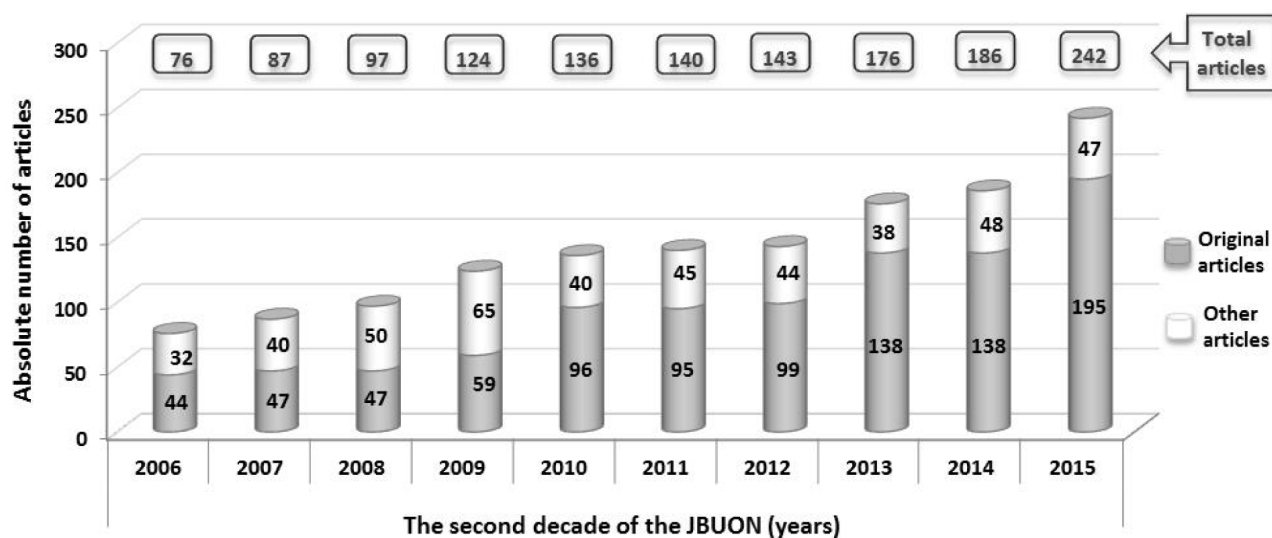


Figure 2. Contribution of original papers in total number of articles published in the second decade of JBUON.

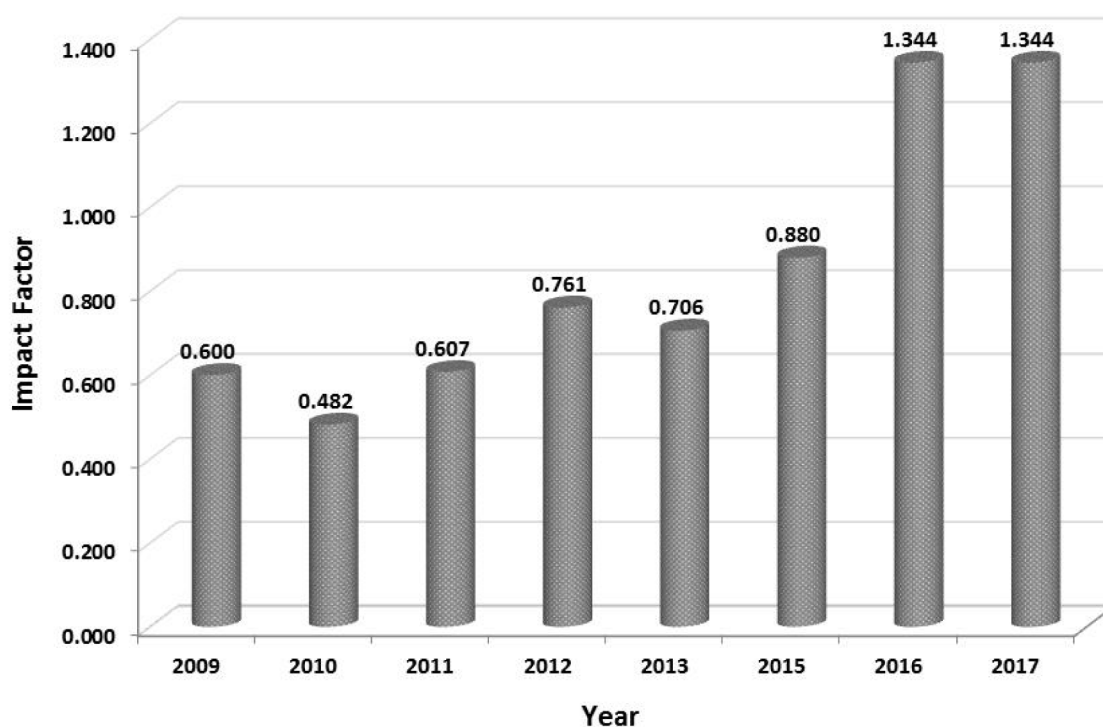


Figure 3. Impact factor of JBUON in the second decade (Athanasios AE, personal communication).

Results

The total number of issues of JBUON the second decade was 42. There were 1407 published articles with increased number of all papers (Figure 1), but with constant rise of original papers and constant decrease (or stagnation) of all other categories of papers (Table 1).

The sharp rise of original papers started in 2010, and has constantly been increased onward. At the end of the investigated period, contribution

of original papers was more than four times greater than at the beginning (195 vs. 44, respectively; Figure 2).

Constant increase of the total number of articles and the percentage of original papers since 2009 (Figure 2) coincided with the increasing values of IF gained in 2009 (Figure 3).

Contribution of authors from Balkan countries in the first and second decades was 83.9% and 76.5%, respectively. Contribution of authors from other countries (non-Balkan and international ar-

titles) was 16.1% in the first decade and 23.5% in the second decade (with 18.5% authors from non-Balkan and 5% international articles; Figure 4).

In 2006, contribution of the articles from Balkan countries was 4.5 times greater than those from non-Balkan countries. In 2009, this number lowered to 1.4 (Figure 5).

Contribution of articles with authors from non-Balkan countries was rather low from 2006 to

2012. After that, the percentage of these articles arose sharply, achieving 70% in 2015 (Figure 6).

During the second decade of JBUON, 1076 articles were written by authors from Balkan countries. Turkey and Greece were on the leading position, followed by Serbia. Bulgaria and Romania contributed to a much lesser extent, while contribution of other Balkan countries was less than 1% (Figure 7).

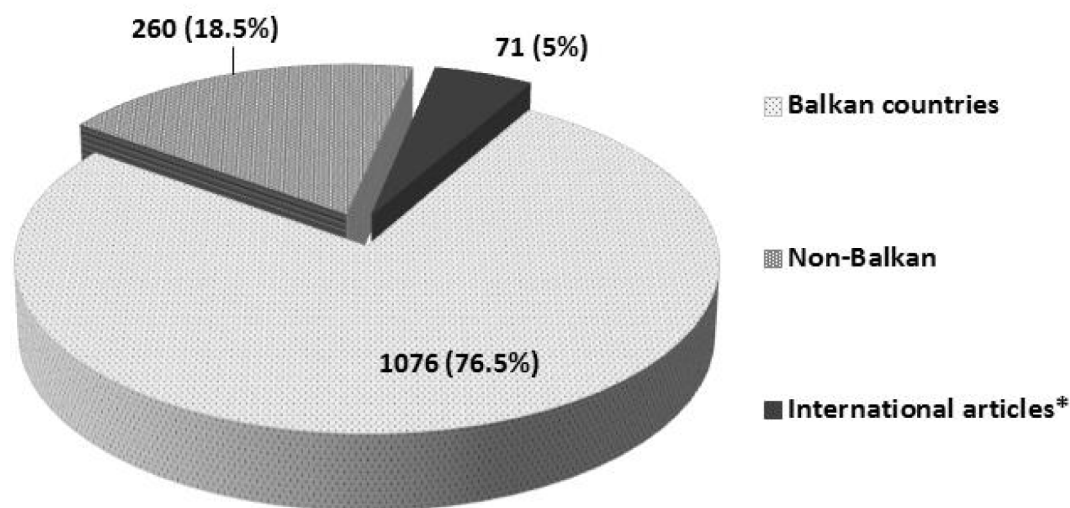


Figure 4. Contribution of authors from Balkan and non-Balkan countries in the second decade.

*International articles: one author from Balkan and most authors from non-Balkan countries

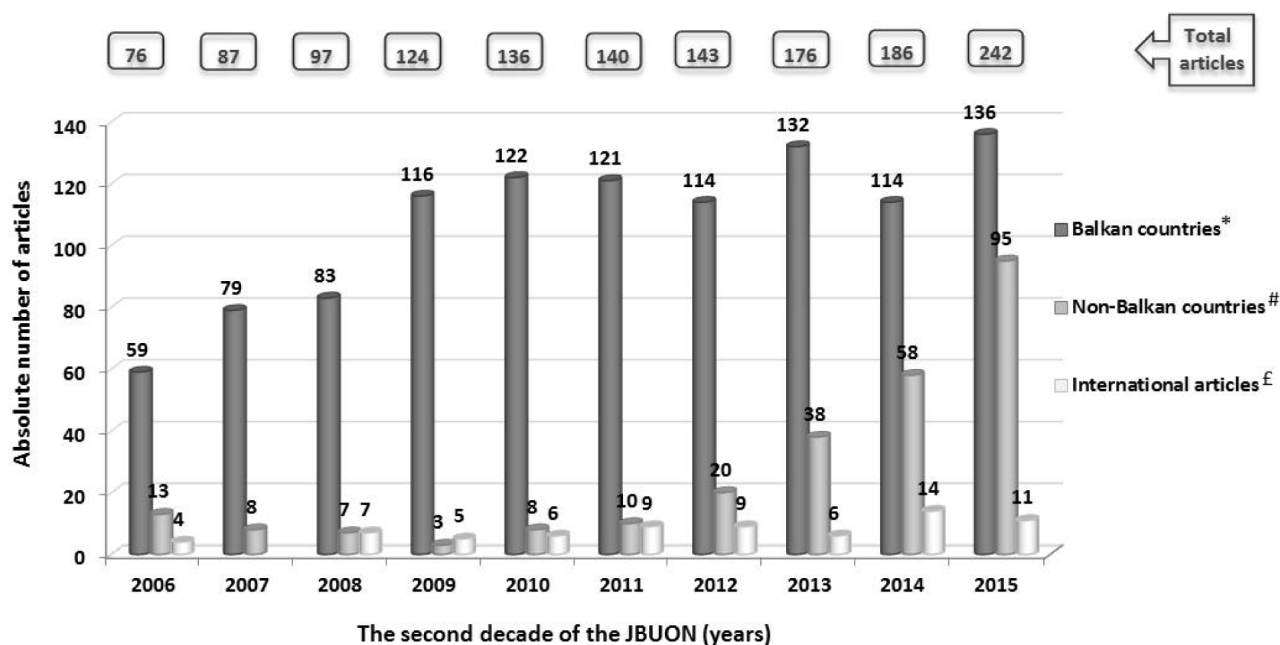


Figure 5. Absolute number of articles written by authors from Balkan countries, non-Balkan countries, and international articles.

***Balkan countries:** Albania, Bosnia Herzegovina, Bulgaria, Greece, FYROMacedonia, Romania, Serbia, Turkey

#**Non-Balkan countries:** Armenia, Austria, Belgium, Brazil, China, Croatia, Czech Republic, Egypt, France, Germany, India, Iran, Ireland, Israel, Italy, Japan, Kazakhstan, Korea, Lithuania, Mexico, Moldova, Pakistan, Poland, Russia, Saudi Arabia, Slovenia, Spain, Switzerland, Taiwan, Tunis, Ukraine, United Kingdom, USA

£**International articles:** one author from Balkan and most authors from non-Balkan countries

Among non-Balkan countries, China, which had no contribution in the first decade, dominates in the second decade in both the total number of contributions and in the number of original papers (Figure 8).

The number of coauthors for all articles except original papers ranged from 1 to 25. The number of coauthors per original paper ranged from 1 to 5 for 2006-2008, and from 6 to 10 for 2009-2015 (Table 2).

Discussion

In the second decade of JBUON, the most important achievement was the inclusion of this journal in most important database – the SCI list – and the resulting IF. This status of JBUON heightened the submission rate to a great extent, leading to the decision of editorial board to change the number of issues per volume from 4 to 6 at the end of the

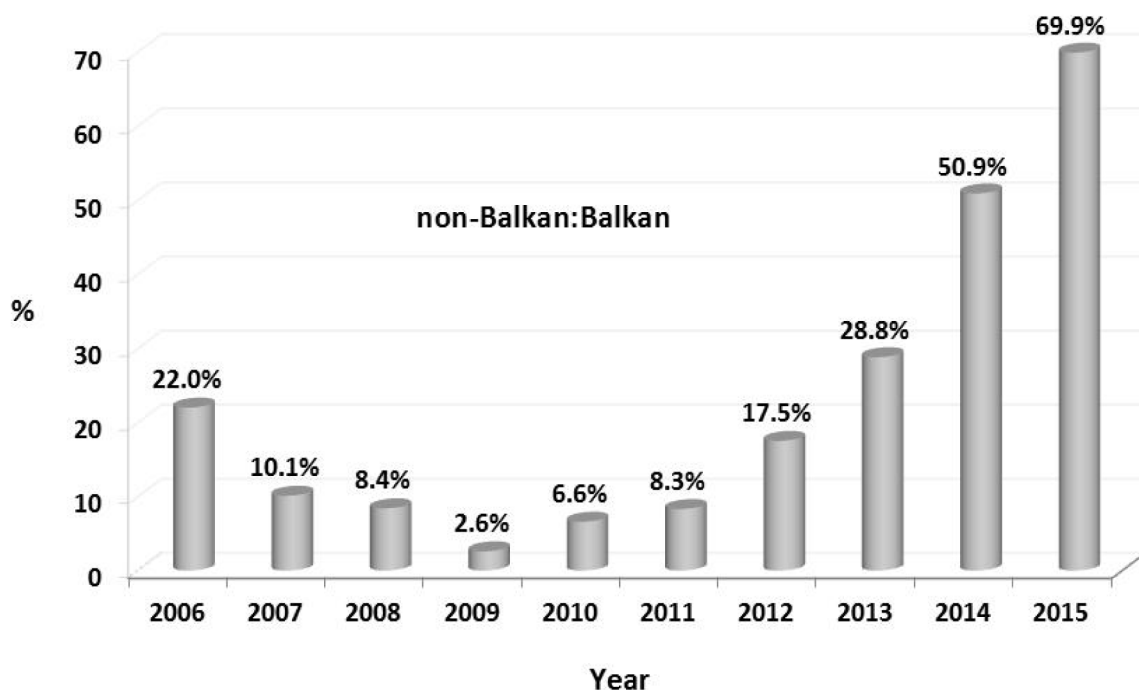


Figure 6. Percentages of non-Balkan articles as a part of total articles from Balkan countries.

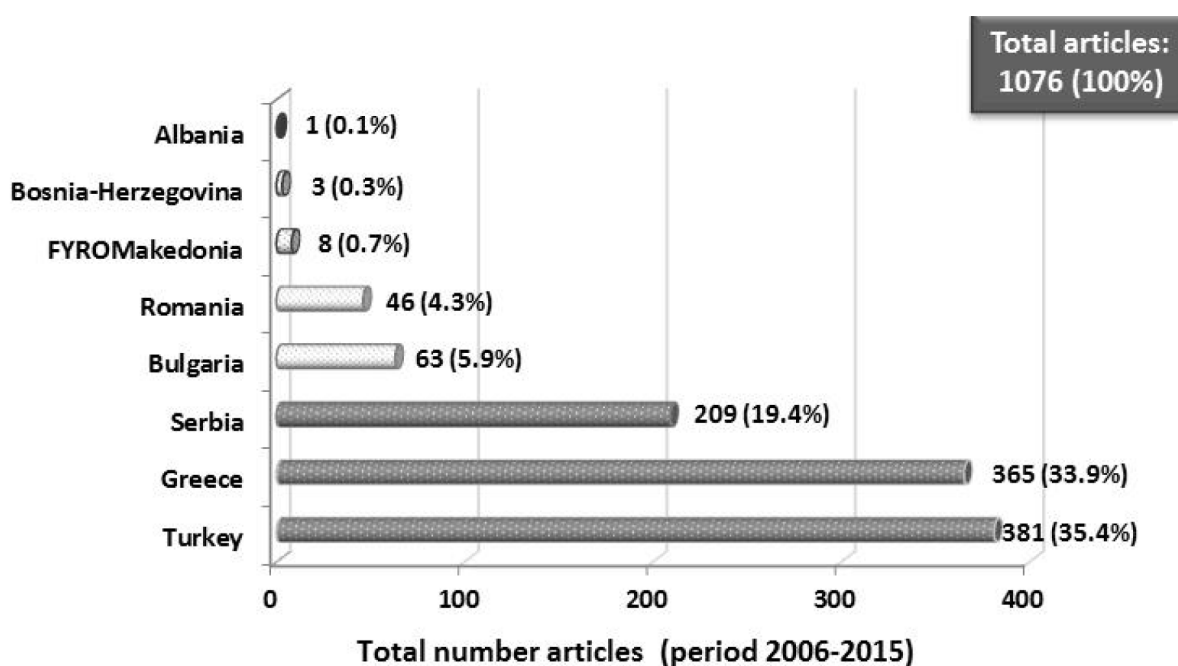


Figure 7. Contribution of BUON country members in total number of articles published in the second decade of JBUON.

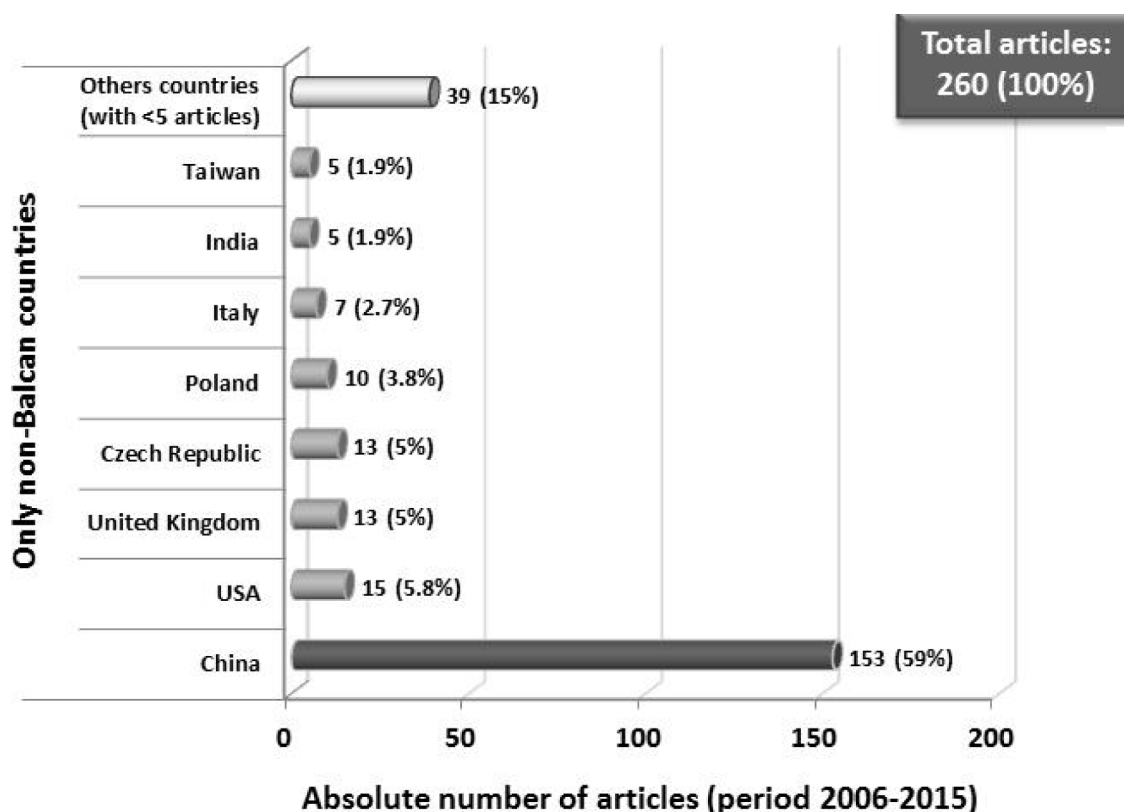


Figure 8. Contribution of non-Balkan countries in total number of articles published in the second decade of JBUON.

Table 2. Authors of original articles published in JBUON during 2006-2015, n (%)

Year	Number of authors of original articles						Total no. of articles
	1-5 authors	6-10 authors	11-15 authors	16-20 authors	>20 authors	Mean (SD)	
2006	21 (47.7)	21 (47.7)	1 (2.3)	1 (2.3)	-	5.1 (2.9)	44 (100%)
2007	22 (46.8)	21 (44.7)	4 (8.5)	-	-	5.1 (2.7)	47 (100%)
2008	24 (51.1)	18 (38.3)	5 (10.6)	-	-	5.2 (2.8)	47 (100%)
2009	27 (45.8)	29 (49.2)	3 (5.1)	-	-	5.4 (2.6)	59 (100%)
2010	42 (43.8)	45 (46.9)	8 (8.3)	1 (1)	-	5.5 (2.8)	96 (100%)
2011	36 (37.9)	52 (54.7)	7 (7.4)	-	-	5.9 (2.6)	95 (100%)
2012	27 (27.3)	59 (59.6)	12 (12.1)	-	1 (1)	6.6 (3.1)	99 (100%)
2013	51 (37)	70 (50.7)	16 (11.6)	1 (0.7)	-	6.2 (3.1)	138 (100%)
2014	52 (37.7)	74 (53.6)	10 (7.2)	2 (1.4)	-	6.3 (2.7)	138 (100%)
2015	80 (41)	91 (46.7)	21 (10.8)	2 (1)	1 (0.5)	6.1 (3.3)	195 (100%)
Total	382 (39.9)	480 (50.1)	87 (9.1)	7 (0.7)	2 (0.2)	5.9 (2.9)	958 (100%)

investigated period. The most submitted articles were original papers.

This status of JBUON has attracted more and more authors from both Balkan and non-Balkan countries to publish their research in this journal. In comparison to the first decade of JBUON, some Balkan countries, such as Romania, contributed with more articles than in the first decade [2], while the contributions of Albania, Bosnia and Herzegovina and FYROM remained minimal.

To a lesser extent, several other non-Balkan countries, either from Europe or other continents, also appeared in JBUON's second decade. The percentage of contributions from these countries rose from 16.1% in the first decade, to 18% in the second one. Some of these countries appeared for the first time in the second decade.

With regard to non-Balkan countries, the appearance of Chinese authors in 2008, and the constant rise of their contributions until the end of the

investigated period, is noticeable. The plausible explanation for this situation is that this event correlates with the indexing of JBUON in the SCI list. It is evident for a long time that China outperformed any other nation regarding scientific publications in peer-reviewed journals [4].

As in the previous decade, multi-authorship prevailed in all articles, especially in original papers published in JBUON in the second decade. In the first decade, the average number of coauthors per article was 4.7 [5]. The number of authors per article increased from 1 to 5 in 2006-2008, and from 6 to 10 in most articles in the period 2009-2015. This may be due to the fact that in 2009 JBUON was included in the SCI list, thus becoming more visible in the international publishing area. The JBUON IF, gradually increasing thereafter, may also be the reason to attract authors of more complex research to publish in JBUON.

Statistics showed that the number of authors per scientific paper has risen steadily since 1950, and has been increasing in this century [6]. This trend was also observed in three leading general medical journals (*JAMA*, *The Lancet*, *New England Journal of Medicine*) in last 10 years [7]; the average number of authors per paper grew from 3.2 to 4.4 (a range of 8-11 in 2005 to 11-18 in 2015). Because

the modern science is a complex, multinational, multidisciplinary and multiprofessional activity, more and more people are engaged in research and listed in byline [8].

In conclusion, the decisive moment for the progress in the second decade of JBUON is undoubtedly the most important achievement - to be indexed in the SCI list, and the resulting IF. All investigated parameters have been rising in parallel with the steady rise of IF. This means that JBUON is now a truly international scientific journal. Considering this new reality, the Editorial Board judged that its title doesn't longer step with the Journal's synthetic words and decided to keep the historical abbreviation JBUON, now meaning Journal of Biomedical Updates in Oncology.

Acknowledgements

Both authors contributed equally to this paper. We thank Dr. Gordana Bogdanovic for pre-review of this manuscript and Ms. Stanka Matejasev for improving the language.

Conflict of interests

The authors declare no conflict of interests.

References

1. Vučković-Dekić Lj, Radulović S. JBUON and important biomedical databases. *J BUON* 2007;12:133.
2. Vučković-Dekić Lj, Rapajić D, Athanassiou AE. Ten years of the Journal of the Balkan Union of Oncology – a brief account. *JBUON* 2006;11:411-3.
3. Vučković-Dekić Lj, Gavrilović D. Importance of being indexed in important databases – effect on the quantity of published articles in JBUON. *JBUON* 2016;21:266-71.
4. Publish or perish. *Nature* 2010;467:252. doi:10.1038/467252a.
5. Vučković-Dekić Lj. Multiauthorship in three oncologic scientific journals. *Arch Oncol* 2000;8:109-10.
6. US National Library of Medicine. Number of authors per MEDLINE/PubMed citation. <http://www.nlm.nih.gov/bsd/authors1.html>. Updated May 16, 2017.
7. Muth CC, Golub RM. Trends in authorship in team science in major medical journals, 2005-2015. Presented at: Eighth International Congress on Peer Review and Scientific Publication; September 11, 2017; Chicago, IL. <http://peerreviewcongress.org/prc17-0167>.
8. Fontanarosa P, Bauchner H, Flanagan A. Authorship and Team Science. *JAMA* 2017;318:2433-7. doi:10.1001/jama.2017.19341.