



## Impact of Online Publication on Turkish Journal of Sports Medicine

### Online Yayınlanma Sürecinin Spor Hekimliği Dergisi'ne Etkisi

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#### ABSTRACT

**Objective:** Turkish Journal of Sports Medicine (TJSM) has been published since 1966 as the official journal of Turkish Sports Medicine Association. By launching of open access online publication in 2016; accessibility, visibility and number of submitted articles have been significantly increased.

**Materials and Method:** Citation rates of the articles published in TJSM for the last three years; between 2017 and 2019 were examined to determine the impact of the open access online publication.

**Results:** 80 articles published between 2017-2019. 93.8% (n=75) were submitted by Turkish authors. 28.7% (n=23) were submitted in English. 75% (n=60) were research articles. When the subject titles were examined; majority of the published articles were found to be as sports medicine articles (47.5%, n=38). 38.8% (n=31) of the articles were multidisciplinary, consisting of health, sports and/or engineering sciences. 46.3% of the studies were at level of evidence 3 (n=37). The impact factor for the last three years was 0.187. Citations were not significantly related to country of submission (p=0.6), study structure (multidisciplinary or not), (p=0.1), language (p=0.8), category (p=0.3) and level of evidence (p=0.9) of the studies.

**Conclusion:** Open access online publication positively effected the accessibility and visibility of the journal, as well as submission rate and published article number per issue. Impact factor for the three years is not low, but gradual increase is expected both in submission rates and quality of the published articles.



**Keywords:** sports medicine, impact factor, citation, level of evidence

#### ÖZ

**Amaç:** Türkiye Spor Hekimliği Dergisi (TJSM) 1966'dan beri Türk Spor Hekimliği Derneği'nin yayın organıdır. 2016 yılında açık erişimli çevrimiçi yayın başlatılmış, o günden bu yana erişilebilirlik, görünürlük ve gönderilen makale sayısı belirgin olarak artmıştır.

**Gereç ve Yöntem:** Son üç yıl içinde TJSM'de yayınlanan makalelerin atıf oranları analiz edilerek; açık erişimli çevrimiçi yayınlamanın derginin etki faktörü üzerine etkisi incelenmiştir.

**Bulgular:** 2017-2019 yılları arasında 80 makale yayınlanmıştır. Bunların %93.8'i (n = 75) Türk yazarlar tarafından üretilmiştir. %28.7'si (n = 23) İngilizce gönderilmiştir ve %75'i (n = 60) araştırma makalesidir. Konu başlıkları incelendiğinde, yayınlanan makalelerin çoğunluğunun spor hekimliği başlığı altında gönderildiği bulunmuştur (%47.5, n = 38). Makalelerin %38.8'i (n = 31) sağlık, spor ve/veya mühendislik bilimlerinden oluşan multidisipliner çalışmalardır. Çalışmaların %46.3'ü kanıt 3 düzeyindedir (n = 37). Son üç yıldaki etki faktörü 0.187'dir. Atıf, makalenin gönderildiği

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ülke ( $p = 0,6$ ), makalenin yapısı (multidisipliner ya da değil), ( $p = 0,1$ ), dil ( $p = 0,8$ ), kategori ( $p = 0,3$ ) ve kanıt düzeyi ( $p = 0,9$ ) ile ilişkili bulunmamıştır.

**Sonuç:** Açık erişim çevrimiçi yayınlanma derginin erişilebilirliğini ve görünürlüğünü, ayrıca yazı gönderme oranını ve sayı başına makale miktarını artırmıştır. Üç yıl için etki faktörü düşük olmamakla birlikte, önümüzdeki yıllarda gönderilen yazı ve yayımlanan makalelerin kalitesinde kademeli bir artış olması beklenmektedir.

**Anahtar sözcükler:** spor hekimliği, etki faktörü, atıf, kanıt düzeyi

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## INTRODUCTION

Turkish Journal of Sports Medicine (TJSM) is the official publication of Turkish Sports Medicine Association since 1966. The journal has been released without interruption and started open access online publication on its 51th anniversary.

Institutions that do academic research/make publications, researchers and organizations that provide project support pay attention to the fact that publications are of high quality and create an impact in the academic environment (1). While it is predicted that 50% of the publications will not be cited at all, it is known that especially the publications that are cited in the current literature are important in terms of determining the field of interest of the scientific world and revealing the scientific gap (2).

To the best of our knowledge, citation analysis of the TJSM have not been performed to date. The aim of this study is to examine the papers published in the TJSM in the last 3 years and to analyse the articles to reveal the impact of open access online publication.

## MATERIAL AND METHODS

The digital archive (<https://journalofsportsmedicine.org/eng/archive>) of the TJSM has been screened in December 2019. 80 articles were published between 2017 and 2019. Supplement issues were not involved in this study. Subject category, country of submission, article structure, level of evidence and language of submitted articles were taken into consideration. Google Scholar database was used to analyse the citation rates of the articles published in TJSM for the last three years (3).

## Statistical analysis

SPSS 22.0 v package program was used for the descriptive statistical analysis of the data. The chi-square test was used to determine the difference between quantitative data. The data were presented as percentage distribution (%) and frequency (n). The significance rate was set at the level of  $p < 0.05$ .

## RESULTS

24% (n=19) of the articles were published in 2017, 32.5% (n=26) in 2018, and 43.5% (n=35) in 2019.

93.8% (n=75) were submitted from Turkey and 6.2% (n=2, Turkish Republic of Northern Cyprus; n =1, Libya; n=1, India; n=1, Bulgaria) were submitted by international authors. 71.3% (n=57) of articles were in Turkish and 28.7% (n=23) were in English.

75% (n=60) of articles were in research article category, 15% (n=12) were review articles, and 10% (n=8) were case reports. When the studies were categorized by their subjects, sports medicine articles took the the first (47.5%, n=38), sports sciences second (20%, n=16) and exercise physiology (10%, n=8) articles third place. These were followed by sports traumatology (7.5%, n=6), "others" (7.5%, n=6), sports cardiology (3.8%, n=3), and sports biochemistry (3.8%, n=3), respectively.

61.2% (n=49) of the submitted articles were carried out by a single discipline, whereas 38.8% (n=31) of them were multidisciplinary studies.

**Table 1.** Cited Articles in The Last Three Years

Authors	Article	Type	LE	Year	Citation
Can S.	Sedentary behavior, number of steps and health	Review	5	2019	1
Söğüt M.	Physical and morphological characteristics of Turkish national adolescent tennis players and their association with serve speed	Research	3	2019	2*
Çelebi et al.	Evaluation of postural balance and hamstring/quadriceps peak torque ratios according to leg dominance in Turkish female volleyball players	Research	3	2018	1
Kaçoğlu et al.	Assessing the kinesiophobia and depression status at return to sport following sport related injuries in contact and non-contact sports	Research	3	2018	1
Kocaman et al.	Site and type assessments of sports injuries in archers	Research	2	2018	1
Karaca et al.	Effects of a volleyball match on serum nitric oxide level and oxidant/ antioxidant status	Research	3	2018	1
Haslofça et al.	Analysis of three decade changes in physical fitness characteristics of Turkish children aged between 11 and 12	Research	3	2017	1
Başkurt et al.	Short term effects of kinesiotape application in patients with knee osteoarthritis	Research	2	2017	1
Yükseltürk et al.	Motion capture technology in sports science: 3D virtual sports platform with Kinect	Review	5	2017	1
Kocahan et al.	The effects of isokinetic strength training on strength at different angular velocities: a pilot study	Research	3	2017	2*
Özen et al.	An epidemiological investigation of skiing injuries in Erciyes ski centre	Research	2	2017	2*
Şenışık and Ergün	Stress fracture of the pubic ramus in a female long distance runner: a case report	Case report	4	2017	1

**Ranked by year of publication, LE: level of evidence, \*: self-citation.**

46.3% (n=37) of the papers were Level of Evidence (LE) 3. It was followed by LE 2 (20%, n=16), LE 5 (17.5%, n=14), LE 4 (15%, n=12), and LE 1 (1.3%, n=1) papers, respectively. 15% (n=12) of the papers were cited 15 times in the

last 3 years (Table 1). The impact factor of last three years was 0.187 (IF=15/80).

The 66.7% (n=10) of citations were found in research articles, 26.7% (n=4) were in theses and 6.6% (n=1) in case report. 13.3% (n=1 from Spain; n=1 from Poland) were cited by foreign

authors. 53.4% (n=8) of citing researchers were studying in sports sciences, 26.7% (n=4) in physiotherapy and rehabilitation, 13.3% (n=2) in sports medicine and 6.6% (n=1) in computer education and instructional technology.

Citations were not significantly related to country of submission (p=0.6), study structure (multidisciplinary or not), (p=0.1), language (p=0.8),

category (p=0.3) and level of evidence (p=0.9) of the studies.

The number of articles per year were significantly increased since the launch of open access online publication (p<0.001). Articles submitted under the category of sport sciences were significantly increased in 2019 (p<0.005), (Figure 1).

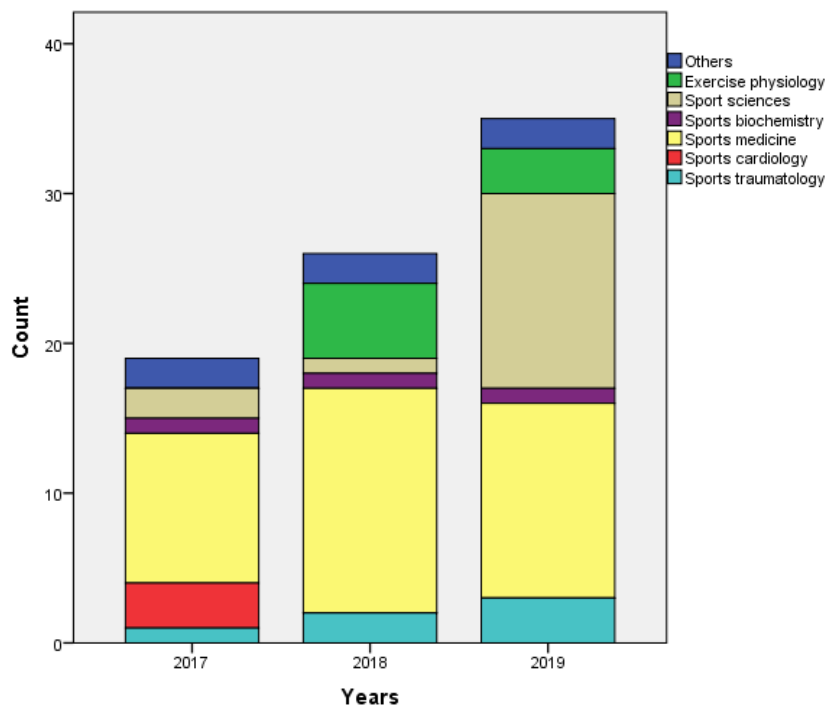


Figure 1. Category of submitted articles

**DISCUSSION**

It is known that English is preferred especially by journals with high international impact and publications written in English have a higher citation rate (4-6). The contribution of the scientific studies to international scientific literature on sports medicine conducted in Turkey increase day by day (7). Although the language of the articles published in TJSM did not create a significant effect on the impact factor, it has been observed that English written articles with higher level of evidence have been submitted in-

creasingly. Submission and publication in English are expected to influence the contribution of TJSM to the international literature, thus will increase the impact factor of the journal, as well.

Field-specific journals are expected to have higher rates of submission from the authors of the main discipline (8,9). We obtained results that were reflecting this finding. Apart from this, one third of the submitted papers were from sport sciences which was considered as an interrelated field with sports medicine. This di-

versity is pleasing, since it will lead to higher contribution to scientific literature due to its multidisciplinary nature. It will probably increase visibility and submission rates which are going to effect impact factor of the journal positively, as well.

Recently published articles are more frequently cited than the past articles (5,10). This is most likely due to rapid updates of scientific developments and popular research topics.

Namdari et al. stated that the level of evidence did not have any effect on the rate of citation (5). This was also valid for the TJSM.

The impact factor and the total number of citations are closely related with the digital age of the journals (11). Submission and citation rates by international authors were increased by the open access online publication of TJSM. It was predicted that the positive contribution of digitalization to impact factor of the journal would more likely increase in the future.

In conclusion, open access online publication positively effected the accessibility and visibility of TJSM, as well as submission rate and published article numbers per issue. Though the impact factor for the last three years can not be considered low, gradual increase is expected both in submission rates and quality of the published articles.

## REFERENCES

1. Shuaib W, Khan MS, Shahid H, et al. Bibliometric analysis of the top 100 cited cardiovascular articles. *Am J Cardiol.* 2015;115(7):972-81.
2. Sebire NJ. H-index and impact factors: assessing the clinical impact of researchers and specialist journals. *Ultrasound Obstet Gynecol.* 2008;32(8):843-5.
3. Knudson D. Citation rates for highly-cited papers from different sub-disciplinary areas within kinesiology. *NAHKE.* 2014;25(2):9-17.
4. Holzer LA, Holzer G. The 50 highest cited papers in hip and knee arthroplasty. *J Arthroplasty.* 2014;29(3):453-7.
5. Namdari S, Baldwin K, Kovatch K, et al. Fifty most cited articles in orthopedic shoulder surgery. *J Shoulder Elbow Surg.* 2012;21(12):1796-802.
6. Vaishya R, Patralekh M, Vaish A, et al. The top 10 most cited Indian articles in arthroscopy in last 10 years. *Indian J Orthop.* 2017;51(5): 505-15.
7. Orscelik A, Seven MM, Akpancar S, et al. Turkish scientific contribution to international literature in sports medicine area. *Turk J Sports Med.* 2018;53:59-66.
8. Azer SA. The top-cited articles in medical education: a bibliometric analysis. *Acad Med.* 2015;90(8): 1147-61.
9. Brophy RH, Kluck D, Marx RG. Update on the methodological quality of research published in the American Journal of Sports Medicine: comparing 2011-2013 to 10 and 20 years prior. *Am J Sports Med.* 2016;44(5):1343-8.
10. Kodumuri P, Ollivere B, Holley J. The impact factor of a journal is a poor measure of the clinical relevance of its papers. *Bone Joint J.* 2014;96-B:414-9.
11. Lozano GA, Larivière V, Gingras Y. The weakening relationship between the impact factor and papers' citations in the digital age. *J Am Soc Inf Sci Technol.* 2012;63(11):2140-5.