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RESEARCH

# PUBLISHING MODELS OF PLASTIC SURGERY JOURNALS: A CROSS-SECTIONAL STUDY

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**Summary**

**Objective**. To provide an overview of journal-level metrics of Plastic Surgery (PS) journals (PSJs) by 1-year journal impact factor (2021JIF), total citations (TCs), and number of issues per year (NIYs) related to publishing models and publication costs for the authors.

**Methods**. Cross-sectional bibliometric analysis of PS indexed peer-reviewed journals. Collected data were 2021JIF, TCs, NIY, and full Open Access (OA), Subscription-based, Hybrid models by Journal Citation Reports (JCR) 2021 directory (Web of Science), NIH catalogue (Medline), EMBASE, Directory of Open Access journals (DOAJ), journals' websites. Descriptive statistics, correlation indexes (r) among 2021JIFs, TCs, NIYs, and APCs calculated by Microsoft Excel for Mac (version 16.16.27), XLSTAT statistical software for parametric tests (t-test); the cell value under 5% considered significant. The main outcome measure was the correlation between 2021JIFs, TCs, NIYs, and APCs.

**Results**. Hybrid model present in 72.09%, full OA in 16.27% full OA, and Subscription-based in 13.95% of the PS journals. Mean APC of Hybrid was significantly higher than OA ($p = 0.022$) and Subscription-based ($p = 0.007$) models. There was no significant difference between mean 2021JIFs of Hybrid and full OA ($p = 0.205$), and Subscription-based ($p = 0.245$) models; no positive correlation between APCs and 2021JIFs [$r = 0.35$ in the full OA, $r = 0.25$ in the Hybrid, and $r = 0.29$ in the Subscription-based subgroups]; slight correlation between NIYs and APCs in the full OA and Hybrid subgroups. Median APC of the Hybrid (€ 3.010) was 56% more than the full OA model (€ 1.325); 17/43 (39.53%) journals offer waivers.

**Conclusions**. The Hybrid was the prevalent model over full OA and Subscription-based, had higher APCs but not significantly different 2021JIFs. The choice of the journal upon which to publish should ground on BAs, contents' quality, consistency with the intents of the scientific boards, methods of peer-reviewing, and transparent information of the publishers.

**Key words**: plastic surgery journals, open access, submission, hybrid publication model, article processing charge, impact factor

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# INTRODUCTION

The journals' publishing models include Subscription-based (personal or institutional) and Open Access (OA). Some journals combine the subscription-based and the OA model for some articles; in this case, the publishing model is defined as a "Hybrid". By the OA model, readers access to full articles without financial charges as the publication costs are supported by authors or institutions (Gold OA). The "Bronze OA" articles are freely available on the publishers' websites temporarily or permanently without an explicit license [1]. In the Green version of the OA model, which is paywalled for the authors, the articles are freely accessible to readers only in institutional or independent subject-specific repositories where the authors can archive their manuscripts [2]. In the Platinum model, neither the readers nor the authors pay for publications that, in this case, are supported by nonprofit foundations or institutions, societies, or governments [3,4]. Given the high costs of publishing articles in trusted peer-reviewed journals, the appropriate choice of the journals upon which to publish require evaluation of the journals. Bibliometric analyses (BAs) can be one of the tools to assess the journals' performance; they rely on a large amount of data and metadata of databases, such as PubMed and Web of Science, and specific metrics or indicators and evolving methodologies [5-7]. BAs can help outline the literature about particular topics, e.g., keloids or noma [8,9], or measure researchers' or research centers' productivity by publications in specific research areas through editorial production (articles, conference proceedings, books, etc.) and quantitative evaluations of citations (total numbers) and other bibliometrics [7]. BAs can help compare the journals' profiles and positions in their ranking and monitor the trends over time according to the publishing models, variously defined and interpreted by publishers [1].

The BAs of surgery and Plastic Surgery (PS) journals (PSJs) are the subjects of several publications for overviews or specific clinical conditions [10-15]. The interest in PSJs, like those in orthopedic and neurosurgery, has been explained by the high earnings of plastic surgeons in high-income countries [16]. However, BAs about PS are based on different metrics, objectives, and selection of PSJs, thus providing different results. The purpose of this cross-sectional study was to provide an overview of journal-level metrics of PSJs related to publishing models and costs of publication for the authors.

# METHODS

This study followed the STROBE check list for cross-sectional studies [17]. The inclusion criteria were: indexed peer-reviewed journals, journals that published articles in the English language, and journals specialized in the PS field. The exclusion criteria were: journals not indexed for Medline, journals without JIFs and APCs data retrievable by the data sources or in the journal's websites or by direct questions to the publishers, journals with a prevalent specialization different from PS, such as maxillo-facial surgery or dermatological or aesthetics, and the journals for nurses, even though indexed for Medline.

### Data sources

The PS journals were identified by the Journal Citation Reports (JCR) of the Web Science database, NIH catalog (currently indexed Medline), EMBASE, and Directory of Open Access journals (DOAJ). The four databases were queried according to search terms: "plastic surgery", "reconstructive surgery", "hand surgery", "aesthetic surgery", "cleft palate", "burn(s)", "trauma reconstruction", "wound(s)/wound repair", and "microsurgery". The numbers of the retrieved journals by search terms and by databases are in Additional File 1.

### Screening

The retrieved data for each journal were: journal name, publisher, 2021 1-year-JIFs (2021JIF), the total number of citations (TCs), number of issues per year (NIYs), publishing models (full OA, full Subscription, or Hybrid), APCs of original articles, possible waivers, and journal affiliations. The editorial teams were contacted about APCs data not retrievable from these data sources. Data are indicated as NA (Not Available) when they were not retrievable from many sources. The APC's costs were expressed in euros at the currency values at the study time.

The retrieved journals were tested for their possible predatory nature by the Academic Journal Predatory Checking system based on the following software: Beall's list [18], and Stop predatory journal's list [19]. As not always available on the journals' websites, the 5-year JIFs were excluded from the calculation or statistical analysis.

The selected PS journals were grouped according to: a) (general) plastic surgery and b) subspecialties: burns, hand surgery, wounds, microsurgery, Cleft Lip Palate (CLP), ophthalmology, and surgical dermatology. In each group, the journals were listed in alphabetic order. The Web of Science core collection was searched in December 2022 and checked in February 2023 to rank the publisher groups who hosted PS articles in 2021.

The outcome measures were the correlations between 2021IFs, TCs, NIYs, APCs, and publishing models.

Means and medians APCs were calculated for all the journals, and each journal was categorized per

publishing models (full OA, Subscription-based, and Hybrid).

### Statistical analysis

The descriptive statistics, the correlation indexes (r) among 2021IFs, TCs, NIYs, and APCs were calculated by Microsoft Excel for Mac (version 16.16.27) and XLSTAT statistical software for Excel (Lumivero) for parametric tests (t-test); the cell value under 5% was considered significant.

## RESULTS

Figure 1 displays the flow diagram of the present study. The retrieved journals were 44 from the initial 262. As one journal has been eliminated as a potentially predatory, the final number of PS journals analyzed was 43.
Table I features the database of the present study and summarizes the main bibliometric characteristics of the 43 retrieved PS journals. The journals were grouped according to main keywords and subspecialties as already described in the Methods (Screening paragraph). The PS journals were also grouped according to the three publishing models (Additional file 2). Inside each group, the PS journals were listed according to the alphabetic order of the name.
Of the 43 analyzed journals, 31 (72.09%) had Hybrid, 7 (16.27%) full OA, and 6 (13.95%) Subscription-based (full subscription) model. Some journals with the Subscription-based model also offer the full OA option. The journals DOAJ indexed were 11/43 (25.58%).
Table II displays mean, median values, min-max range, and standard deviation for the 43 PS journals, in total and by each publishing model (full OA, Subscription-based, Hybrid). The median APC of the Hybrid model (€ 3.010) was 56% more than that of the full OA model (€ 1.325). Table III reports the statistical data of the metrics of the three publishing models. The mean APC of the Hybrid subgroup was significantly higher than that of the full OA ($p = 0.022$) and Subscription-based ($p = 0.007$) subgroups. No significant difference was found between the mean 2021JIF of the Hybrid and the full OA ($p = 0.205$) and Subscription-based ($p = 0.245$) subgroups. The mean TCs of the Hybrid and the Subscription models was not significantly different

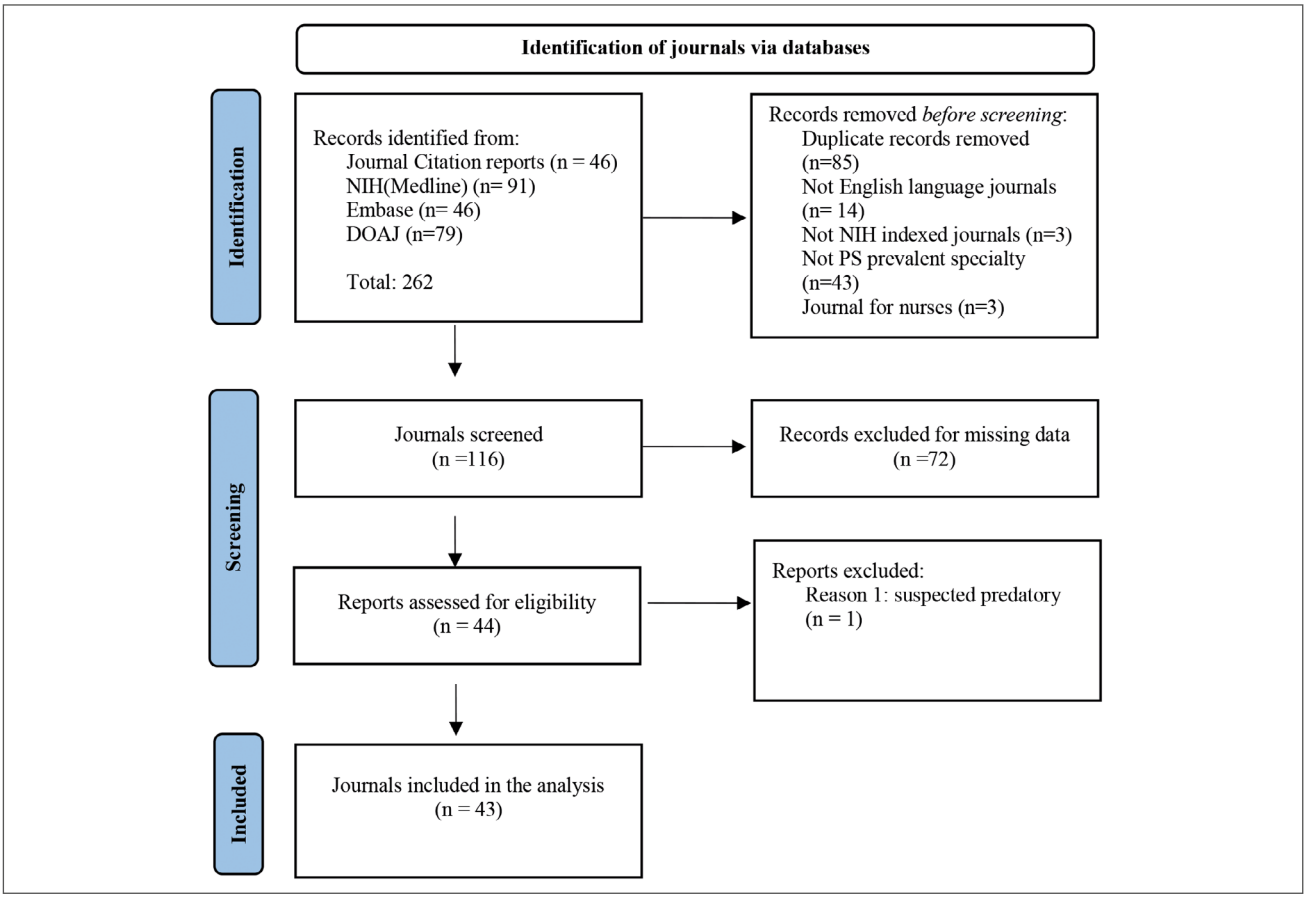


**Figure 1.** Flow diagram of this cross-sectional study about journals in the Plastic Surgery field.

**Table I.** Main BA characteristics and metrics of the retrieved PS journals

| Plastic Surgery journals 2021 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Journal name | Publisher | 1-year (2021) - JIF | 2021 Total Citations (TC) | Number of issues/ year (NIY) | Publishing models | APC for original articles (€) | Waivers | Notes (affiliations, support, subscription costs, etc.) |
| **Key word: Plastic Surgery** | | | | | | | | | |
| 1 | Archives of Aesthetic Plastic Surgery* | Korean Society Plastic & Reconstructive Surgery | 0.4 | 41 | 3 | Gold OA: 95.83%; Subscription or Bronze: 00.00%; Other (not citable items): 4.17% | 56,49 | | OA DOAJ indexed |
| 2 | Archives of Facial Plastic Surgery* | American Medical Association/Mary Ann Liebert | 1.705 | 1167 | 6 | Hybrid | 3381,27 | | Hybrid |
| 3 | Archives of Plastic Surgery-APS* | Korean Society Plastic & Reconstructive Surgery | 2.195 | 1740 | 4 | Gold OA: 0.00%; Subscription or Bronze: 98.35%; Other (not citable items): 00.00% | 659,138 | APC will be waived for papers from other countries | Subscription-based DOAJ indexed |
| 4 | Aesthetic Plastic Surgery* | Springer | 2.708 | 6502 | 6 | Gold OA: 4.45%; Subscription or Bronze: 49.44%; Other (not citable items): 46.11% | 3003,78 | | Hybrid |
| 5 | Aesthetic Surgery Journal (ASJ)* | Oxford University Press/Oxford Academic | 4.485 | 7104 | 12 | Gold OA: 4.95%; Subscription or Bronze: 46.49%; Other (not citable items): 48.55% | 4783,45 | Waiver on the OA charge for authors from developing countries | Hybrid |
| 6 | Annals of Plastic Surgery* | Lippincott Williams & Wilkins | 1.763 | 11493 | 12 | Gold OA: 1.88%; Subscription or Bronze: 91.82%; Other (not citable items): 3.91% | 2966,12 | | Hybrid Submission fee: € 70,62. Individual 1-year subscription: € 961,399 |
| 7 | British Journal of Plastic Surgery (BJPS)* | Elsevier (since 2022) | 1.291 | 3390 | 8 | Gold OA | 3276,26 | R4L | OA The British Association of Plastic Surgeons |
| 8 | Clinics in Plastic Surgery* | Elsevier | 2.530 | 3121 | 4 | Gold OA: 4.78%; Subscription or Bronze: 88.04%; Other (not citable items): 7.18% | 0 | | Hybrid Upon invitation of the authors |
| 9 | European Journal of Plastic Surgery* | Springer | 0.55 | 852 | 6 | Gold OA: 12.53%; Subscription or Bronze: 80.18%; Other (not citable items): 7.29% | 2690 | | Hybrid |

**Table I.** *continues*

| | Plastic Surgery journals 2021 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Journal name | Publisher | 1-year (2021) - JIF | 2021 Total Citations (TC) | Number of issues/ year (NIY) | Publishing models | APC for original articles (€) | Waivers | Notes (affiliations, support, subscription costs, etc.) |
| 10 | Facial Plastic Surgery* | Thieme Medical Publishing | 1.286 | 1772 | 6 | Gold OA: 0.56%; Subscription or Bronze: 86.39%; Other (not citable items): 13.06% | 2730,71 | R4L | Hybrid |
| 11 | Facial Plastic Surgery & Aesthetic Medicine* | Mary Ann Liebert | 2.296 | 288 | 6 | Gold OA: 3.16%; Subscription or Bronze: 67.72%; Other (not citable items): 29.12% | 3389,85 | | Hybrid |
| 12 | Facial Plastic Surgery Clinics of North America* | W B Saunders Co-Elsevier | 1.875 | 1351 | 4 | Gold OA: 0.52%; Subscription or Bronze: 86.60%; Other (not citable items): 12.89% | 0 | | Hybrid Upon invitation of the authors No APC (2021) |
| 13 | GMS Interdisciplinary Plastic and Reconstructive Surgery DGPW | German Medical Science (GMS) | 0.5 | NA | 1 | OA | 400 | | OA DOAJ indexed |
| 14 | Indian Journal of Plastic Surgery* | Thieme Medical Publishing | 0.77 | 1180 | 3 | Gold OA: 69.43%; Subscription or Bronze: 3.40%; Other (not citable items): 27.17% | 0 | | Hybrid DOAJ indexed |
| 15 | Journal of Plastic, Reconstructive & Aesthetic Surgery (JPRAS)* | Elsevier | 3.022 | 9296 | 12 | Golden OA: 84.10%; Subscription or Bronze: 2.35%; Other (not citable items): 13.56% | 2975,54 | R4L | Hybrid DOAJ indexed |
| 16 | Journal of Plastic Surgery and Hand Surgery* | Taylor & Francis Online | 1.295 | 1186 | 6 | Gold OA: 14.28%; Subscription or Bronze: 85.28%; Other (not citable items): 0.43% | 3010 | | Hybrid |
| 17 | Plastic and Aesthetic Research (PAR) | OAE Publishing | 4 | NA | Continuously published | Gold OA | 564,975 | | OA |
| 18 | Plastic and Reconstructive Surgery (PRS)* | Lippincott Williams & Wilkins | 5.169 | 47801 | 12 | Golden OA: 0.78%; Subscription and free to read: 46.35%; Other (not citable items): 52.56% | 3413,39 | | Hybrid |
| 19 | Plastic and Reconstructive Surgery- Global Open (PRS Global Open)* | Wolters Kluwer Health /Lippincott Williams & Wilkins | 1.568 | 5378 | 12 | Gold OA: 84.10%; Subscription or Bronze: 2.35%; Other (not citable items): 13.56% | 2066,87 | | Hybrid DOAJ indexed |

**Table I.** *continues*

| | Plastic Surgery journals 2021 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Journal name | Publisher | 1-year (2021) - JIF | 2021 Total Citations (TC) | Number of issues/ year (NIY) | Publishing models | APC for original articles (€) | Waivers | Notes (affiliations, support, subscription costs, etc.) |
| 20 | Plastic Surgery* (Formerly: Canadian Journal of Plastic Surgery) | Sage Publishing | 0.558 | 540 | 4 | Gold OA#:12.62%; Subscription or Bronze: 77.67%; Other (not citable items)**: 9.71% | 3531,09 | R4L | Hybrid |
| 21 | Seminars in Plastic Surgery* | Thieme Medical Publishing | 2.195 | 1497 | 4 | Gold OA: 0.00%; Subscription or Bronze: 98.35%; Other (not citable items): 00.00% | 2730,71 | R4L | Sub only |
| **Key word: Burns** | | | | | | | | | |
| 22 | Burns* | Elsevier | 2.609 | 9920 | 6 | Gold OA: 5.08%; Subscription or Bronze: 70.50%; Other (not citable items): 24.43% | 3003,78 | | Hybrid |
| 23 | Burns Open | Elsevier | 0.7 | NA | 4 | Gold OA | 1325,03 | R4L | OA DOAJ indexed |
| 24 | Burns & Trauma* | Oxford University Press/Oxford Academic | 5.711 | 1,22 | 1 | Gold OA: 93.53%; Subscription or Bronze: 0.72%; Other (not citable items): 5.76% | 2259,9 | Full waiver for developing countries | OA DOAJ indexed |
| 25 | Journal of Burn Care & Research* | Oxford University Press/Oxford Academic | 1.891 | 4082 | 6 | Gold OA: 8.47%; Subscription or Bronze: 86.77%; Other (not citable items): 4.76% | 3189,28 | Full waiver for developing countries | Hybrid |
| 26 | Trauma Surgery & Acute Care Open* | BMJ Publishing Group | 0.623 | 944 | 1 | Gold OA: 92.02%; Subscription or Bronze: 0.85%; Other (not citable items): 7.12% | 2354,06 | | OA DOAJ indexed |
| **Key word: Hand Surgery** | | | | | | | | | |
| 27 | Hand Surgery & Rehabilitation* | Elsevier | 1.419 | 557 | 2 | Gold OA: 2.34%; Subscription or Bronze: 85.96%; Other (not citable items):11.70% | 2190 | Personalized OA APC based on individual context (country, institutional affiliation, and any society membership) | Hybrid |

**Table I.** *continues*

| | Plastic Surgery journals 2021 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Journal name | Publisher | 1-year (2021) - JIF | 2021 Total Citations (TC) | Number of issues/ year (NIY) | Publishing models | APC for original articles (€) | Waivers | Notes (affiliations, support, subscription costs, etc.) |
| 28 | Journal of Hand Surgery-Asian-Pacific Volume* | World Scientific Publishing | 0.68 | 737 | 4 | Gold OA: 0.0%; Subscription or Bronze: 97.51%; Other (not citable items):2.49% | 1883,25 | Discounted APC for corresponding authors from certain developing countries. | Sub only |
| 29 | Journal of Hand Surgery-European Volume* | Sage Publishing | 2.206 | 6,448 | 10 | Gold OA: 4.96%; Subscription or Bronze: 48.61%; Other (not citable items):46.4370% | 3750 | R4L | Hybrid Subscription costs: Individual: € 698,686; institutional: € 1965,17 |
| 30 | Journal of Hand Surgery-American Volume* | W B Saunders co-Elsevier | 2.342 | 15780 | 12 | Gold OA: 1.24%; Subscription or Bronze: 91.90%; Other (not citable items):6.87% | 4538,63 | R4L | Hybrid DOAJ indexed (Global online) |
| 31 | Journal of Plastic Surgery and Hand Surgery* | Taylor & Francis | 1.295 | 1186 | 6 | Subscription or Bronze: 77.93% | 3010 | | Hybrid |
| **Key word: Wounds** | | | | | | | | | |
| 32 | Advances in Wound Care* | Mary Ann Liebert | 4.947 | 4318 | 12 | Gold OA: 19.27%; Subscription or Bronze: 77.06%; Other (not citable items): 3.61% | 3389,85 | | Hybrid |
| 33 | International Wound Journal | Wiley | 3.099 | 5451 | 12 | Gold OA: 42%; Subscription or Bronze: 42%; Other (not citable items): 16% | 3227,39 | | Hybrid DOAJ indexed |
| 34 | International Journal of Lower Extremity Wounds* | Sage Publishing | 1.922 | 1426 | 4 | Gold OA: 1.82%; Subscription or Bronze: 91.17%; Other (not citable items): 7.01% | 3750 | R4L | Hybrid |
| 35 | Ostomy Wound Management* | HMP Communications | 2.629 | 1451 | 12 | Gold OA: 0.00%; Subscription or Bronze: 62.50%; Other (not citable items): 37.50% | 0 | | Subscription-based |
| 36 | Wound – a compendium of Clinical Research and Practice* | H M P Communication | 1.441 | 1487 | 12 | Gold OA: 0.00%; Subscription or Bronze: 82.91%; Other (not citable items): 17.09% | 0 | | Subscription-based |

**Table I.** *continues*

| | Plastic Surgery journals 2021 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Journal name | Publisher | 1-year (2021) - JIF | 2021 Total Citations (TC) | Number of issues/ year (NIY) | Publishing models | APC for original articles (€) | Waivers | Notes (affiliations, support, subscription costs, etc.) |
| 37 | Wound Management and Prevention* | HMP Communications | 1.222 | 104 | 12 | Gold OA: 0.00%; Subscription or Bronze: 76.81%; Other (not citable items): 23.19% | 0 | | Subscription-based |
| 38 | Wound Repair and Regeneration* | Wiley | 3.401 | 7579 | 6 | Gold OA: 4.25%; Subscription or Bronze: 22.57%; Other (not citable items): 73.18% | 2150 | | Hybrid |
| **Key word: Microsurgery** | | | | | | | | | |
| 39 | Journal of Reconstructive Microsurgery* | Thieme Medical Publishing | 2.329 | 3201 | 9 | Gold OA: 0.52%; Subscription or Bronze: 91.62%; Other (not citable items): 7.85% | 1638,41 | R4L | Hybrid Subscription cost: € 412,432 |
| 40 | Microsurgery | Wiley | 2.080 | 3952 | 8 | Gold OA: 2.88%; Subscription or Bronze: 76.05%; Other (not citable items): 21.06% | 3248,61 | | Hybrid |
| **Key word: Cleft Lip Palate (CLP)** | | | | | | | | | |
| 41 | Journal of Craniofacial Surgery* | Walter Kluvier-Lippincott Williams & Wilkins | 1.172 | 12223 | 8 | Gold OA: 1.40%; Subscription or Bronze: 90.03%; Other (not citable items): 8.56% | 2975,54 | | Hybrid |
| 42 | The Cleft Palate-Craniofacial Journal* | Sage Publications | 1.915 | 6740 | 6 | Gold OA: 6.85%; Subscription or Bronze: 89.17%; Other (not citable items): 3.99% | 3750 | R4L | Hybrid |
| **Key word: Ophthalmology** | | | | | | | | | |
| 43 | Ophthalmic Plastic and Reconstructive Surgery* | Lippincott Williams & Wilkins | 2.011 | 4451 | 6 | Gold OA: 0.28%; Subscription or Bronze: 59.49%; Other (not citable items): 40.23% | 2396,44 | | Hybrid |
| **Key word: Surgical Dermatology** | | | | | | | | | |
| 44 | Dermatologic Surgery* | Lippincott Williams & Wilkins | 2.914 | 10650 | 12 | Gold OA: 1.98%; Subscription or Bronze: 39.63%; Other (not citable items): 58.39% | 4143,15 | | Hybrid |

OA: Open Access; NA: Not Available; R4L: Research 4 Life initiative; Sub only: Subscription only model.
*Total Citations (TC): total number of times that a journal has been cited by all journals included in the database in the JCR year; **A citable item is any article, review or proceedings paper published in a journal included in the JCR that is considered to make a substantive contribution to the scholarly body of work in a particular research area. These documents are considered most likely to be cited by other published articles. Citable items, in calculating the journal's impact factor, are those documents counted in the equation's denominator. Other forms of journal content, such as editorial materials, letters, and meetings abstracts, are not considered as citable items.
The publication model (Gold OA or subscription) of materials published in 2018, 2019 and 2020, and citations in 2020 to these items.

**Table II.** Descriptive statistics of the PS selected journals.

| | Mean | Median | Min-max range | SD |
|---|---|---|---|---|
| **Total** | | | | |
| APCs | 2.359 | 2.848 | 0-4.783 | 1.392 |
| 2021JIFs | 2.332 | 2.138 | 0.4-5.711 | 1.189 |
| TCs | 4.926 | 1.772 | 1-47.801 | 7.906 |
| NIY | 7 | 6 | 1-12 | 4 |
| **OA** | | | | |
| APCs | 1.462 | 1.325 | 56-3.276 | 1.201 |
| 2021JIFs | 2.335 | 1.291 | 4-5.711 | 2.993 |
| TCs | 1.094 | 493 | 1-3.390 | 1.591 |
| NIY | 3 | 2 | 1-8 | 3 |
| **Hybrid** | | | | |
| APCs | 2.848 | 3.010 | 0-4.783 | 1.162 |
| 2021JIFs | 2.402 | 2.343 | 1.172-5.169 | 1.051 |
| TCs | 6.355 | 4.318 | 6-47.801 | 8.758 |
| NIY | 8 | 6 | 2-12 | 3 |
| **Subscription-based** | | | | |
| APCs | 834 | 564 | 0-2.731 | 1.071 |
| 2021JIFs | 2.004 | 2.195 | 0.4-2.629 | 549 |
| TCs | 1.169 | 1.469 | 104-1.740 | 622 |
| NIY | 9 | 12 | 4-12 | 4 |

APC: Article Processing Charge; JIF: journal Impact Factor; NIY: number of issues per year; SD: Standard Deviation; TC: Total Citations.

**Table III.** Test-t results of the mean values o APCs JIFs, TCs, and NIY.

| Mean | Hybrid | OA | p-value | Subscrip-tion-based | p-value |
|---|---|---|---|---|---|
| APCs | 2848 | 1462 | 0.022 | 834 | 0.007 |
| 2021JIFs | 2402 | 2335 | 0.205 | 2004 | 0.245 |
| TCs | 6355 | 1094 | - | 1469 | 0.245 |
| NIY | 8 | 3 | 0.007 | 9 | 0.844 |

APC: Article Processing Charge; JIF: journal Impact Factor; NIY: number of issues per year; TC: Total Citations.

(p = 0.245). The t-test between TCs of Hybrid and full OA models was not calculated given the limited or Not Available (NA) data of the full OA model (Additional file 2). The NIYs of the Hybrid model were significantly higher *versus* those of the full OA model (p=0.007) but not *versus* those of the Subscription-based model (p = 0.844).

Table IV displayed the Person correlation index between the metrics for each subgroup of publishing models. No positive correlation was found between APCs and JIFs in the three publishing models [r = 0.35 in the full OA, r = 0.25 in the Hybrid, and r = 0.29 in the Subscription-based subgroups]. APCs and the NIYs had a slightly positive correlation in the full OA [r = 0.45] and in the Hybrid subgroups [r = 0.49] and a negative correlation in the Subscription-based subgroup [r = -0.81]. In the full OA subgroup, negative correlations were found between JIFs and TCs [r = -1.00] and between JIFs and the NIYs [r = -1.00]. In the Subscription-based subgroup, there was a negative correlation between JIFs and the NIYs [r = -0.27].

**Table IV.** Person correlation index (r) among the metrics (JIFs, TCs, NYi total and per publishing models (OA, Hybrid, Subscription only).

| r | Total | Hybrid | OA | Subscription-based |
|---|---|---|---|---|
| APCs and 2021JIFs | 0.27 | 0.25 | 0.35 | 0.29 |
| APCs and NIY | 0.17 | 0.49 | 0.45 | -0.81 |
| APCs and 2021 TCs | 0.26 | 0.24 | 0.71 | 0.13 |
| 2021JIF and 2021TCs | 0.39 | 0.55 | -1.00 | 0.67 |
| 2021JIF and NIY | 0.09 | 0.53 | -1.00 | -0.27 |

APC: Article processing Charge; JIF: Journal Impact Factor; NIY: number of issues per year; OA: Open Access; TC: Total Citations.

Seventeen out of 43 (39.53%) journals offered waivers; 6 out of 18 (33.33%) presented an unspecific waiver opportunity, 11 out of 17 (64.70%) adhered to the Reaserch4Life (R4L) initiative, and none to Hinari Program (World Health Organization). Figure 2 shows the ranking of the first 14 publishing groups that hosted the 688 articles related to the PS fields in 2021 based on the JCR. The overall market share of the first four of the 14 publishing groups accounted for 52.18%.

## DISCUSSION

In the present study about the selected PS journals, the Hybrid was the most common publishing model (72%). The mean and median APCs of the Hybrid were superior to those of the full OA and Subscription-based models. However, the three publishing models showed no significant difference in the mean 2021JIF and no correlation among the metrics (in particular, APCs and JIFs). The NIYs slightly correlated with APCs in the full OA and Hybrid subgroups and negatively correlated in the Subscription-based subgroup. A negative correlation was also found between JIFs and TCs in the full OA subgroup. However, the median APCs of the Hybrid (€ 3.010) are remarkably higher (56%) than that of the full OA model (€ 1.325).

In the study of Yesantharao et al. (2022) [11], the Hybrid model was found for 45% of the 82 PS journals registered in 2019-2020, and the multivariate analysis

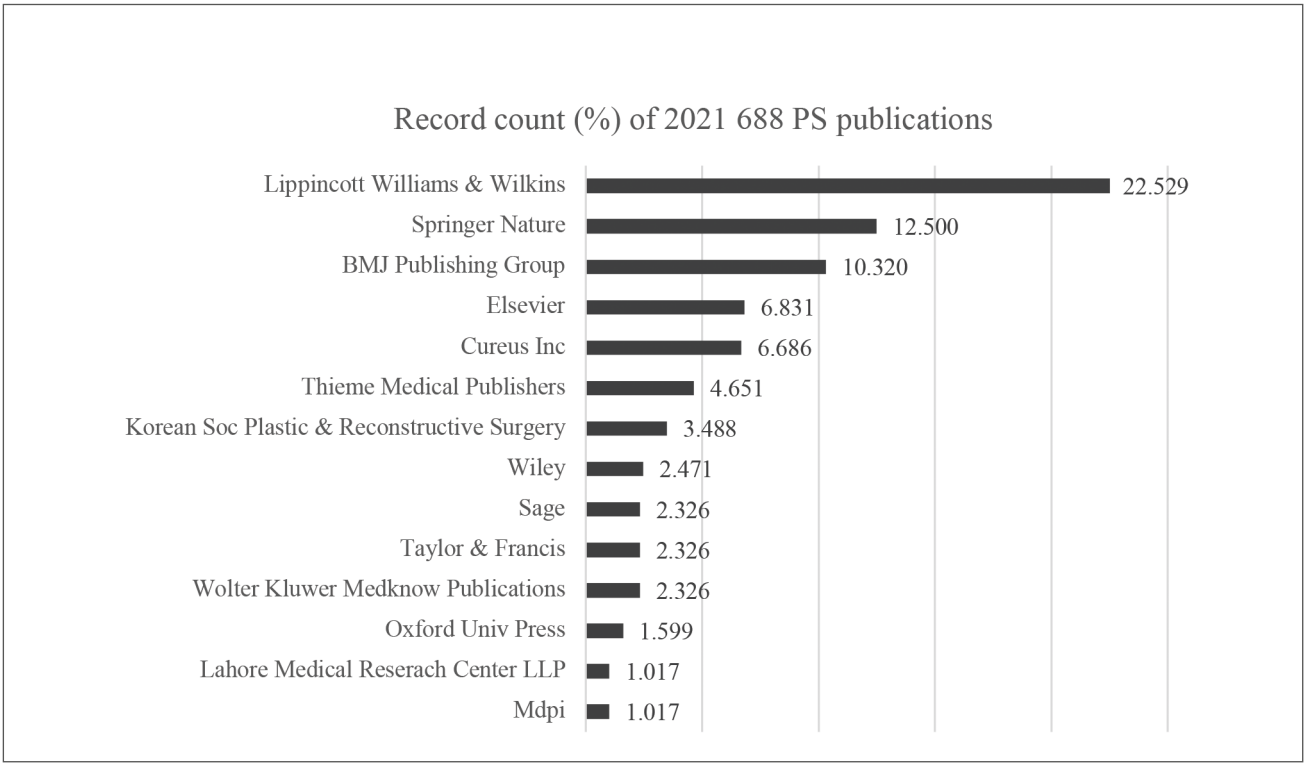


**Figure 2.** Record count (%) of the 688 PS publications in 2021 of the first 14 publishing groups ((Web of Science Database).

## Additional file 1

| Search terms | Journal Citation Reports | NIH catalogue (currently indexed Medline) | Embase | DOAJ | Total |
|---|---|---|---|---|---|
| Plastic surgery | 20 | 23 | 9 | 28 | 80 |
| Reconstructive surgery | 8 | 24 | 6 | 21 | 59 |
| Hand surgery | 8 | 8 | 6 | 5 | 27 |
| Aesthetic surgery | 2 | 23 | 4 | 10 | 39 |
| Cleft Palate | 1 | 1 | 1 | 3 | 6 |
| Burn(s) | 3 | 3 | 5 | 3 | 14 |
| Trauma reconstruction | 0 | 0 | 2 | 1 | 3 |
| Wound(s) | 1 | 6 | 11 | 5 | 23 |
| Microsurgery | 3 | 3 | 2 | 3 | 11 |
| **Total** | **46** | **91** | **46** | **79** | **262** |

PS journals items retrieved by search terms and sources.

provided a positive correlation (r = 0.39) between the impact factor and the APCs for the PS journals with OA model. The higher number of PS journals compared to the present study could be explained by the different databases and subset or PS subspecialties retrieved by keywords. For example, in the present study, the keyword "wounds" yielded a subset of eight journals absent in the Yesantharao et al. study [11]; moreover, the present study did not consider the oral and maxillofacial surgery journals. A weak positive correlation between APCs and the impact was found in 89 surgical journals (including PS journals), exclusively with the OA model, by Yuen et al. (2019), who used six indexes (IF, SCOPUS h-index, SCImago journal rank indicator (SJR), Eigenfactor, Article Influence Score and Google h5 index) [16]. Conversely, a positive correlation among APCs, 2021JIFs, and publishing models was found in Ophthalmology journals [20]. Findings similar to those of the present study were observed for the cardiology and cardiac surgery journals in the analysis of Vervoort et

## Additional file 2

| Plastic Surgery journals | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | OA model | | | | |
| | Journal name | Publisher | 1-year (2021) - JIF | 2021 Total Citations (TC) | Number of issues/ year | Publishing models | APC for original articles (€) | Waivers | Notes (affiliations, support, subscription costs, etc.) |
| **Key word: Plastic Surgery** | | | | | | | | | |
| 1 | Archives of Aesthetic Plastic Surgery* | Korean Society Plastic & Reconstructive Surgery | 0.4 | 41 | 3 | Gold OA: 95.83%; Subscription or Bronze: 00.00%; Other (not citable items): 4.17% | 56,49 | | OA DOAJ indexed |
| 2 | British Journal of Plastic Surgery (BJPS)* | Elsevier (since 2022) | 1.291 | 3390 | 8 | Gold OA | 3276,26 | R4L | OA The British Association of Plastic Surgeons |
| 3 | GMS Interdisciplinary Plastic and Reconstructive Surgery DGPW | German Medical Science (GMS) | 0.5 | NA | 1 | OA | 400 | | OA DOAJ indexed |
| 4 | Plastic and Aesthetic Research (PAR) | OAE Publishing | 4 | NA | Continuously published | Gold OA | 564,975 | | OA |
| **Key word: Burns** | | | | | | | | | |
| 5 | Burns Open | Elsevier | 0.7 | NA | 4 | Gold OA | 1325,03 | R4L | OA DOAJ indexed |
| 6 | Burns & Trauma* | Oxford University Press/Oxford Academic | 5.711 | 1,22 | 1 | Gold OA: 93.53%; Subscription or Bronze: 0.72%; Other (not citable items): 5.76% | 2259,9 | Full waiver for developing countries | OA DOAJ indexed |
| 7 | Trauma Surgery & Acute Care Open* | BMJ Publishing Group | 0.623 | 944 | 1 | Gold OA: 92.02%; Subscription or Bronze: 0.85%; Other (not citable items): 7.12% | 2354,06 | | OA DOAJ indexed |
| **Key word: Hand Surgery** | | | | | | | | | |
| **Key word: Wounds** | | | | | | | | | |
| **Key word: Microsurgery** | | | | | | | | | |
| **Key word: Cleft Lip Palate (CLP)** | | | | | | | | | |

| | Journal name | Publisher | 1-year (2021) - JIF | 2021 Total Citations (TC) | Number of issues/ year (NIY) | Publishing models | APC for original articles (€) | Waivers | Notes (affiliations, support, subscription costs, etc.) |
|---|---|---|---|---|---|---|---|---|---|
| **Key word: Ophthalmology** | | | | | | | | | |
| **Key word: Surgical Dermatology** | | | | | | | | | |
| | | | | | **Subscription model** | | | | |
| **Key word: Plastic Surgery** | | | | | | | | | |
| 1 | Archives of Plastic Surgery-APS* | Korean Society Plastic & Reconstructive Surgery | 2.195 | 1740 | 4 | Gold OA: 0.00%; Subscription or Bronze: 98.35%; Other (not citable items): 00.00% | 659,138 | APC will be waived for papers from other countries | Sub only DOAJ indexed |
| 2 | Seminars in Plastic Surgery* | Thieme Medical Publishing | 2.195 | 1497 | 4 | Gold OA: 0.00%; Subscription or Bronze: 98.35%; Other (not citable items): 00.00% | 2730,71 | R4L | Sub only |
| **Key word: Burns** | | | | | | | | | |
| **Key word: Hand Surgery** | | | | | | | | | |
| 3 | Journal of Hand Surgery-Asian-Pacific Volume* | World Scientific Publishing | 0.68 | 737 | 4 | Gold OA: 0.0%; Subscription or Bronze: 97.51%; Other (not citable items): 2.49% | 1883,25 | Discounted APC for corresponding authors from certain developing countries. | Sub only |
| **Key word: Wounds** | | | | | | | | | |
| 4 | Ostomy Wound Management* | HMP Communications | 2.629 | 1451 | 12 | Gold OA: 0.00%; Subscription or Bronze: 62.50%; Other (not citable items): 37.50% | 0 | | Sub only |
| 5 | Wound – a compendium of Clinical Research and Practice* | HMP Communication | 1.441 | 1487 | 12 | Gold OA: 0.00%; Subscription or Bronze: 82.91%; Other (not citable items): 17.09% | 0 | | Sub only |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | Wound Management and Prevention* | HMP Communications | 1.222 | 104 | 12 | Gold OA: 0.00%; Subscription or Bronze: 76.81%; Other (not citable items): 23.19% | 0 | | Sub only |
| **Key word: Microsurgery**<br>**Key word: Cleft Lip Palate (CLP)**<br>**Key word: Ophthalmolog**<br>**Key word: Surgical Dermatology** | | | | | | | | | |
| | | | | | **Hybrid model** | | | | |
| | **Journal name** | **Publisher** | **1-year (2021) - JIF** | **2021 Total Citations (TC)** | **Number of issues/ year** | **Publishing models** | **APC for original articles (€)** | **Waivers** | **Notes (affiliations, support, subscription costs, etc.)** |
| **Key word: Plastic Surgery** | | | | | | | | | |
| 1 | Archives of Facial Plastic Surgery* | American Medical Association/ Mary Ann Liebert | 1.705 | 1167 | 6 | Hybrid | 3381,27 | | Hybrid |
| 2 | Aesthetic Plastic Surgery* | Springer | 2.708 | 6502 | 6 | Gold OA: 4.45%; Subscription or Bronze: 49.44%; Other (not citable items): 46.11% | 3003,78 | | Hybrid |
| 3 | Aesthetic Surgery Journal (ASJ)* | Oxford University Press/Oxford Academic | 4.485 | 7104 | 12 | Gold OA: 4.95%; Subscription or Bronze: 46.49%; Other (not citable items): 48.55% | 4783,45 | Waiver on the OA charge for authors from developing countries | Hybrid |
| 4 | Annals of Plastic Surgery* | Lippincott Williams & Wilkins | 1.763 | 11493 | 12 | Gold OA: 1.88%; Subscription or Bronze: 91.82%; Other (not citable items): 3.91% | 2966,12 | | Hybrid Submission fee: € 70,62. Individual 1-year subscription: € 961,399 |
| 5 | Clinics in Plastic Surgery* | Elsevier | 2.530 | 3121 | 4 | Gold OA: 4.78%; Subscription or Bronze: 88.04%; Other (not citable items): 7.18% | 0 | | Hybrid Upon invitation of the authors |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | European Journal of Plastic Surgery* | Springer | 0.55 | 852 | 6 | Gold OA: 12.53%; Subscription or Bronze: 80.18%; Other (not citable items): 7.29% | 2690 | | Hybrid |
| 7 | Facial Plastic Surgery* | Thieme Medical Publishing | 1.286 | 1772 | 6 | Gold OA: 0.56%; Subscription or Bronze: 86.39%; Other (not citable items): 13.06% | 2730,71 | R4L | Hybrid |
| 8 | Facial Plastic Surgery & Aesthetic Medicine* | Mary Ann Liebert | 2.296 | 288 | 6 | Gold OA: 3.16%; Subscription or Bronze: 67.72%; Other (not citable items): 29.12% | 3389,85 | | Hybrid |
| 9 | Facial Plastic Surgery Clinics of North America* | W B Saunders Co-Elsevier | 1.875 | 1351 | 4 | Gold OA: 0.52%; Subscription or Bronze: 86.60%; Other (not citable items): 12.89% | 0 | | Hybrid Upon invitation of the authors - No APC (2021) |
| 10 | Indian Journal of Plastic Surgery* | Thieme Medical Publishing | 0.77 | 1180 | 3 | Gold OA: 69.43%; Subscription or Bronze: 3.40%; Other (not citable items): 27.17% | 0 | | Hybrid DOAJ indexed |
| 11 | Journal of Plastic, Reconstructive & Aesthetic Surgery (JPRAS)* | Elsevier | 3.022 | 9296 | 12 | Golden OA: 84.10%; Subscription or Bronze: 2.35%; Other (not citable items): 13.56% | 2975,54 | R4L | Hybrid DOAJ indexed |
| 12 | Journal of Plastic Surgery and Hand Surgery* | Taylor & Francis Online | 1.295 | 1186 | 6 | Gold OA: 14.28%; Subscription or Bronze: 85.28%; Other (not citable items): 0.43% | 3010 | | Hybrid |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 13 | Plastic and Reconstructive Surgery (PRS)* | Lippincott Williams & Wilkins | 5.169 | 47801 | 12 | Golden OA: 0.78%; Subscription and free to read: 46.35%; Other (not citable items): 52.56% | 3413,39 | | Hybrid |
| 14 | Plastic and Reconstructive Surgery- Global Open (PRS Global Open) * | Wolters Kluwer Health /Lippincott Williams & Wilkins | 1.568 | 5378 | 12 | Gold OA: 84.10%; Subscription or Bronze: 2.35%; Other (not citable items): 13.56% | 2066,87 | | Hybrid DOAJ indexed |
| 15 | Plastic Surgery* (Formerly: Canadian Journal of Plastic Surgery) | Sage Publishing | 0.558 | 540 | 4 | Gold OA#:12.62%; Subscription or Bronze: 77.67%; Other (not citable items)**: 9.71% | 3531,09 | R4L | Hybrid |
| **Key word: Burns** | | | | | | | | | |
| 16 | Burns* | Elsevier | 2.609 | 9920 | 6 | Gold OA: 5.08%; Subscription or Bronze: 70.50%; Other (not citable items): 24.43% | 3003,78 | | Hybrid |
| 17 | Journal of Burn Care & Research* | Oxford University Press/Oxford Academic | 1.891 | 4082 | 6 | Gold OA: 8.47%; Subscription or Bronze: 86.77%; Other (not citable items): 4.76% | 3189,28 | Full waiver for developing countries | Hybrid |
| **Key word: Hand Surgery** | | | | | | | | | |
| 18 | Hand Surgery & Rehabilitation* | Elsevier | 1.419 | 557 | 2 | Gold OA: 2.34%; Subscription or Bronze: 85.96%; Other (not citable items): 11.70% | 2190 | Personalized OA APC based on individual context (country, institutional affiliation, and any society membership) | Hybrid |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19 | Journal of Hand Surgery-European Volume* | Sage Publishing | 2.206 | 6448 | 10 | Gold OA: 4.96%; Subscription or Bronze: 48.61%; Other (not citable items): 46.4370% | 3750 | R4L | Hybrid Subscription costs: Individual: € 698,686 ; institutional: € 1965,17 |
| 20 | Journal of Hand Surgery-American Volume* | W B Saunders co-Elsevier | 2.342 | 15780 | 12 | Gold OA: 1.24%; Subscription or Bronze: 91.90%; Other (not citable items):m 6.87% | 4538,63 | R4L | Hybrid DOAJ indexed (Global online) |
| 21 | Journal of Plastic Surgery and Hand Surgery* | Taylor & Francis | 1.295 | 1186 | 6 | Subscription or Bronze: 77.93% | 3010 | | Hybrid |
| **Key word: Wounds** | | | | | | | | | |
| 22 | Advances in Wound Care* | Mary Ann Liebert | 4.947 | 4318 | 12 | Gold OA: 19.27%; Subscription or Bronze: 77.06%; Other (not citable items): 3.61% | 3389,85 | | Hybrid |
| 23 | International Wound Journal | Wiley | 3.099 | 5451 | 12 | Gold OA: 42%; Subscription or Bronze: 42%; Other (not citable items): 16% | 3227,39 | | Hybrid DOAJ indexed |
| 24 | International Journal of Lower Extremity Wounds* | Sage Publishing | 1.922 | 1426 | 4 | Gold OA: 1.82%; Subscription or Bronze: 91.17%; Other (not citable items): 7.01% | 3750 | R4L | Hybrid |
| 25 | Wound Repair and Regeneration* | Wiley | 3.401 | 7579 | 6 | Gold OA: 4.25%; Subscription or Bronze: 22.57%; Other (not citable items): 73.18% | 2150 | | Hybrid |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Key word: Microsurgery** | | | | | | | | | |
| 26 | Journal of Reconstructive Microsurgery* | Thieme Medical Publishing | 2.329 | 3201 | 9 | Gold OA: 0.52%; Subscription or Bronze: 91.62%; Other (not citable items): 7.85% | 1638,41 | R4L | Hybrid Subscription cost: € 412,432. |
| 27 | Microsurgery | Wiley | 2.080 | 3952 | 8 | Gold OA: 2.88%; Subscription or Bronze: 76.05%; Other (not citable items): 21.06% | 3248,61 | | Hybrid |
| **Key word: Cleft Lip Palate (CLP)** | | | | | | | | | |
| 28 | Journal of Craniofacial Surgery* | Walter Kluvier-Lippincott Williams & Wilkins | 1.172 | 12223 | 8 | Gold OA: 1.40%; Subscription or Bronze: 90.03%; Other (not citable items): 8.56% | 2975,54 | | Hybrid |
| 29 | The Cleft Palate-Craniofacial Journal* | Sage Publications | 1.915 | 6740 | 6 | Gold OA: 6.85%; Subscription or Bronze: 89.17%; Other (not citable items): 3.99% | 3750 | R4L | Hybrid |
| **Key word: Ophthalmology** | | | | | | | | | |
| 30 | Ophthalmic Plastic and Reconstructive Surgery* | Lippincott Williams & Wilkins | 2.011 | 4451 | 6 | Gold OA: 0.28%; Subscription or Bronze: 59.49%; Other (not citable items): 40.23% | 2396,44 | | Hybrid |
| **Key word: Surgical Dermatology** | | | | | | | | | |
| 31 | Dermatologic Surgery* | Lippincott Williams & Wilkins | 2.914 | 10650 | 12 | Gold OA: 1.98%; Subscription or Bronze: 39.63%; Other (not citable items): 58.39% | 4143,15 | | Hybrid |

al. (2021), where 60.9% of the journals had a Hybrid model, and the median APC was higher up to 50% than that of OA model [15]. It is worth noting that the various levels of hybridization hamper comparing the journals' performance with the Hybrid model in the different BAs.
The appraisal of medical journals' performance usually grounds on a few available bibliometrics, which is the subject of debate. Notwithstanding the numerous factors that can influence the citation rates, such as the volume of publications and citation characteristics of the subject area journal's type, the JIF is still the most used journal-level metric, and TC is considered as it assesses the influence of journals in absolute terms. Other bibliometrics are currently under evaluation and waiting for an acknowledged validation [21]. However, as the number of citations can correlate with the extent of the spreading of a publication, the performance of the journals with the full OA is not necessarily better than that of the journals with the Subscription-based model [22].
In our study, the overall median APC for PS journals was € 2348,00, which is comparable to other fields. However, the high mean APCs reached in recent years by PS journals pose a relevant problem of publication opportunities for researchers working in public or private institutions.
In this study, only 17 out of the 43 (approx. 40%) PS journals offered waivers for researchers of low-medium-income countries (LMICs) in various versions (full or partial). Gardner et al. (2021) found that waiver to researchers working in LMICs was provided by 51.5% of the 272 oncology journals retrieved by the SCImago Journal & Country rank database [23]. The multivariate analysis of the same sample revealed that the European, full OA, disease-specific journals were more likely to offer waivers than the North American journals, which had APCs higher than the median [23]. This difference was not observed in the present study.
A recent analysis of DOAJ-registered journals has highlighted the oligopoly structure of the publishing market but also underlined that medical journals were the most expensive than other publishing fields [24]. In the present study, not all the retrieved PS journals were DOAJ-registered. The outline of the publishing market of PS journals has confirmed the structure concentrated in a few publishing groups with a dominant position of the first four of the total 14 main groups publishing groups with a market share of 52%. Furthermore, the publishing landscape changes so quickly, even in a year, that different databases and keywords can yield different results, especially regarding non-top journals. Given the continuous acquisitions, APCs and possible waivers can vary among the journals of the same publisher. Consequently, the BAs should be routinely updated and refined.
The turbulence favors the concentration of the medical publishing market in a few publishing companies that follow a business model with high-profit margins [22]. The final profit of the publishing industries, especially of those with the Hybrid model, are favored by the new technologies, editorial teams based in developing countries whose salaries are lower than those in Western countries, the support of institutional funders, unpaid editorial board members and the peer-reviewers.
The full OA or Hybrid models do not comply with the original principle of "open access" research formalized in Plan S [16,22,25,26]; instead, the costs of access to publications remark the disparity in disseminating data and experience and improving healthcare. For example, 22% of the articles in the top-cited emergency care published in 2012-2016 and retrieved through the Scopus database are not accessible without a subscription [26]. The high-cost OA limits the circulation of research findings and maintains the marginalization of research developed in LMICs and research centers with limited funding, even in MICs [3,15,27,28]. It is clear that the current eligibility criteria of waivers or discounts of APCs based on overall national economic parameters (i.e., purchasing power parity index of the World Bank) should be revised as they do not consider the capacities of local researchers and research institutions [28].
The publishing costs should be calculated not only in terms of APC but also of the time for publishing spent by researchers. In the case of the six top PS journals, although the median time from submission to publication has been improving since 2005, an analysis of 1114 studies published in 2018 highlighted a median total time from submission to in-print publication of 10.3 months (IQR 8-12.6), a median time from submission to acceptance of 4.6 months (IQR 3-6.8) and from the acceptance to publication of 5.4 months (IQR 4.2-6.3) [29]. Another study on 18 PS journals reported a median submission-to-publication time of 29.7 weeks (IQR 12.1-35.8) and was compared to 22.1 days of all surgical journals [30]. The incomplete information on the website pages of the journals regarding financial aspects determines the waste of time of the researchers for contacting the editorial team for personalized agreements. These conditions can delay the selection process of a journal. Although aligned with other similar analyses [31], these timings from submission to publication can be improved [32].
In this setting, the risk of the development of predatory publishing is evident also in the PS publishing field. Gallo et al. (2022) found that 98% of 437 unsolicited emails offering publications received by plastic surgeons were sent by potential full OA predatory journals defined according to the Rohrich and Weinstein checklist [33,34]. Predatory journals can be detected in lists available

on specific websites, such as Scopus, DOAJ, Web of Science databases, Cabells' Predatory Reports [34,35] or Beall's List or Stop predatory journal's list or other specialized sources by preidentified keywords.

This cross-sectional study is limited by the lack of standard practices of BAs, the small sample size for statistical analyses, and the number of databases queried for the investigation. Moreover, the unstable setting of the publishing market hinders a complete outline of the PS journals. For several journals (included or not in the JCR database), some parameters, such as the TCs, 2021JIFs for journals established in recent years, were irretrievable; e.g., values of 2021JIF below 0.5 were not detectable. For four of the 43 selected journals, the 2021TCs data were not found during the study period; hence, the correlations between TCs and APCs were uncompleted for these journals. The missed inclusion of the 5-year JIFs data due to unavailability limited the analysis.

Clear indications of the JIF for any journal, though below one, can benefit the transparency of the publishing industry. In this study, the missing JIF data about several journals reduced the sample size for analyses.

Beyond the usual metrics and the combination of more metrics, future BAs should encompass the content profiles of the PS journals and consider the main keywords that describe specific areas and subspecialties to lower the heterogeneity of the samples.

## CONCLUSIONS

The outline of the PS journals concerning 2021JIFs, TCs, NIYs, and APCs of this study is temporary as the unstable landscape of the publishing market prevent fixed conclusions about single subsets of journals. Hybrid model remarkably prevailed over full OA and Subscription-based models, featuring higher APCs but similar 2021JIFs.

In the current oligopoly structure of the medical publishing market, transparent sets of information about the journals and publishers would be advisable.

The choice of the journal upon which to publish should ground on BAs but also on the contents' quality, the consistency with the intents of the scientific boards, and the methods of peer-reviewing.

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The authors declare no conflict of interest.

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### Author contributions

KSA: A, D, W
EKK: D, DT

### *Abbreviations*

A: conceived and designed the analysis
D: collected data
DT: contributed data or analysis
W: wrote the paper
O: other contribution (specify ethically in more detail)

### Ethical considerations

Not applicable

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