

Oculoplastic publication trends in general ophthalmology journals

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Abstract

• **AIM:** To examine the publication trend of oculoplastic articles throughout the last decade in general ophthalmology journals.

• **METHODS:** A review of all abstracts published between January 2010 to December 2019 in general, clinical ophthalmic journals was conducted. Articles that were categorized as original articles in general and clinical journals were included in the study.

• **RESULTS:** Totally 10 281 abstracts were included. Of them 465 (4.5%) were oculoplastic publications. The mean number of annual-publications was 46.5 and the mean annual-rate of oculoplastic publications was 4.51%. A significant decreasing trend in the number of oculoplastic publication in the last decade was found ($P < 0.01$, $R^2 = 0.770$). However, there was no significant change in the annual-rate of oculoplastic publications during the last decade ($P = 0.191$, $R^2 = 0.203$). From the 465 oculoplastic articles: 179 (38.5%) were articles about eyelid diseases, 160 (34.40%) were about orbit diseases, 92 (19.80%) were about lacrimal diseases and 34 (7.30%) were about thyroid eye disease (TED). A significant decreasing trends in the number of orbital and eyelids publications were found ($P < 0.01$, $P < 0.01$). However, there were no significant changes in the annual-rate of orbital, eyelids, TED and lacrimal-diseases publications throughout the last decade.

• **CONCLUSION:** Oculoplastic subspecialty deals with a wide range of pathologies in different ages. However, less than 5% of the articles in general, clinical, high impact factor ophthalmology journals are about oculoplastic diseases. One of the best way for ophthalmologists from different subspecialties, nowadays, to be updated, is to read high-impact-factor, general ophthalmology journals. Therefore, it is important that those journals will include articles about breakthroughs in oculoplastic.

• **KEYWORDS:** oculoplastic; publications; journals; general; articles; ophthalmology

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INTRODUCTION

Oculoplastic, a subspecialty in ophthalmology, refers to a large variety of pathologies in the orbit, eyelids and lacrimal system^[1]. During the last decade, there have been many advances in diagnosis and treatment of orbit, eyelids and lacrimal system diseases^[2-5]. Most of the new findings published in peer review ophthalmology journals.

According to the Web of Science, there are 59 peer review ophthalmology journals^[6]. Some of them are specific to one subspecialty like: *Retina*, *Journal of Neuro-Ophthalmology*, *Ophthalmic Plastic and Reconstructive Surgery* etc., while the others are general ophthalmology journals like: *Ophthalmology*, *JAMA Ophthalmology*, *American Journal of Ophthalmology*, *British Journal of Ophthalmology* etc. The general ophthalmology journals designated for comprehensive ophthalmologists and usually with more widespread distribution compared to the subspecialty journals.

Oculoplastic articles publish usually in general ophthalmology journals as well as in the subspecialty journal—*Ophthalmic Plastic and Reconstructive Surgery*. Publication trends of different subspecialties in ophthalmology examined during the years^[7-11]. However, to the best of our knowledge, the publication trend of oculoplastic subspecialty never examined

in the past. Moreover, the publication trend of the subgroups in oculoplastic subspecialty (eyelid, orbit, and lacrimal system) also never examined. Therefore, the purposes of this current study were to examine the publication trend of oculoplastic articles as well as to examine the publication trend of each oculoplastic subgroup, throughout the last decade, in general, clinical, high-impact factor ranking ophthalmology journals.

MATERIALS AND METHODS

Ethical Approval The research was performed in compliance with the tenets of the Declaration of Helsinki.

A retrospective review of all abstracts published between January 2010 to December 2019 in the general, high impact factor, clinical ophthalmic journals was conducted. General and clinical base journals included in the study while nonclinical journals, subspecialty specific journals, and review journals were excluded. Among journals categorized as general and clinical base the journals with the 6 highest impact factor in 2018 were selected for analysis.

All abstracts were freely available on the journals' web sites. The abstracts were reviewed manually by 1 of the 2 authors (Khatib N, Zloto O) and articles that were about oculoplastic issues were documented. The oculoplastic articles categorized to 1 of the 4 subgroups: orbit, thyroid eye disease (TED), eyelids, and lacrimal system.

Articles that were categorized as original articles were included while case reports, letters to the editor, meeting papers, Meta-analysis, review articles, reports, book reviews were excluded.

Statistical Analysis Quantitative variables were described as mean and standard deviation. Categorical variables were described as absolute and relative frequencies.

The annual number of publications for each journal and for all journals together was summarized. The mean annual number was calculated as the mean number of oculoplastic publication in all journals together in all years.

The mean annual number of the publication for each subgroups of oculoplastic—eyelid, orbit, TED, and lacrimal system was calculated as the mean number of publications in the in all journals together for each subgroups for all years. The annual rate of the subgroups of oculoplastic—eyelid, orbit, TED, and lacrimal system in each journal was calculated as the number of publication in the subgroup divided to the total number of publication in oculoplastic in the examined year. The mean annual publication of the subgroups of oculoplastic—eyelid, orbit, TED, and lacrimal system was calculated as the mean of the annual rate of each subgroup publication of all journals.

To examine the relationship between the dependent variables as the number and rate of oculoplastic publications over the years, a liner regression was employed.

The overall significance level was set to an alpha of 0.05. The statistical analysis was carried out using Microsoft Excel

2017 (Microsoft Corporation, Redmond, WA) and IBM SPSS software version 24.0 (SPSS, Inc., Chicago, IL, USA).

RESULTS

All Oculoplastic Publications Of the first quartile ophthalmology journals, 6 met the inclusion criteria: *Ophthalmology*, *JAMA Ophthalmology*, *American Journal of Ophthalmology*, *British Journal of Ophthalmology*, *Clinical, Experimental Ophthalmology*, and *Acta Ophthalmologica*. Totally 10 281 abstracts were included. Of them 465 (4.5%) were oculoplastic articles.

The mean number of annual publications was 46.5 ± 13.10 (23–64). A liner regression was done to examine the change in number of oculoplastic publications in all journals throughout the years. A significant decreasing trend was found ($P < 0.01$, $R^2 = 0.770$). A decrease of 3.80 articles per year. There was a decrease in the number of publication in *Ophthalmology* journal during the years ($P < 0.01$, $R^2 = 0.779$). However, there was no significant change in the number of oculoplastic publications in the 5 other journals. Figure 1 presents the annual number of oculoplastic publications for each of the six journals, as well as the total number of publications in all six journals.

The mean annual rate of oculoplastic publications was $4.51\% \pm 1.01\%$ (2.88%–5.97%). There was an increase in the annual rate of oculoplastic publications, between 2010 to 2014 (except from a one decrease in 2013), reaching 5.97% in 2014. However, between 2014 to 2019, there was a decreasing trend (except form between 2016 to 2017). The lowest rate of oculoplastic publication was in 2019 when only 2.88% of oculoplastic publication. Due to the fluctuation during the 10y, in the linear model, the trend was not significant ($P = 0.191$, $R^2 = 0.203$).

In 5 out of 10y of the examined period, the *British Journal of Ophthalmology* had the highest rate of oculoplastic publication, in 3y the *Clinical and Experimental Ophthalmology* had the highest rate of oculoplastic publication and in two year the *Acta Ophthalmologica* had the highest number of oculoplastic publications. Figure 2 presents the annual rate of oculoplastic publications for each of the six journals, as well as the total the annual rate in all six journals.

Sub-groups of Oculoplastic Publications From the 465 oculoplastic articles: 179 (38.5%) were articles about eyelid diseases, 160 (34.40%) were about orbit diseases, 92 (19.80%) were about lacrimal diseases and 34 (7.30%) were about TED. The mean annual number of eyelid publication was 17.9 ± 5.04 (7–27), of orbital publications was 16 ± 5.61 (9–24), of lacrimal publications was 9.2 ± 4.04 (3–17) and of TED publications was 3.4 ± 1.64 (2–6). A significant decreasing trend in the number of orbital publications was found ($P < 0.01$, $R^2 = 0.635$). A decrease of 1.47 of orbital articles per year. In addition, there was a significant decreasing trend in the number of eyelid

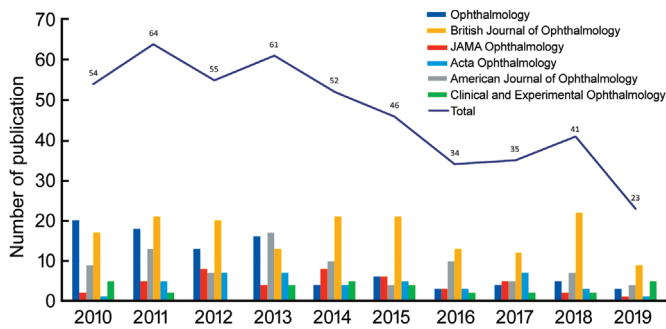


Figure 1 The annual number of oculoplastic publications for each of the journals and the total number of publications.

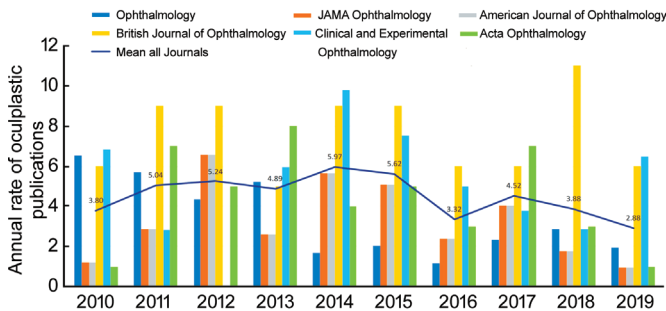


Figure 2 The annual rate of oculoplastic publications for each of the journals and the for all journals.

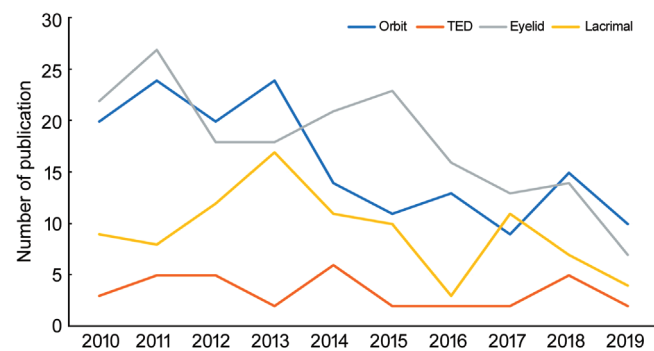


Figure 3 The number of publications of each subgroups each year.

publications ($P < 0.01$, $R^2 = 0.664$). A decrease of 1.54 eyelid articles per year. However, there were no significant trends in the number of publications about lacrimal system and TED ($P = 0.181, 0.623$). Figure 3 presents the number of publications of each subgroups each year.

The mean annual rate of eyelid articles was $5.07\% \pm 1.15\%$ (5.07–8.33), of orbital articles was $5.67\% \pm 1.08\%$ (3.98–7.24), of lacrimal system articles was $3.23\% \pm 1.15\%$ (4.91–8.33) and of TED articles was $1.44\% \pm 0.50\%$ (0.54–2.03). In all 4 subgroups—eyelid, orbit, lacrimal system, and TED, the mean annual rate fluctuated during the years without a significant trend ($P = 0.975, 0.883, 0.397, 0.542$, respectively). Figure 4 presents the rate of publication of each subgroup in each journal over the last 10y.

DISCUSSION

This current study examined the publication trend of oculoplastic full length articles in 6 clinical, high impact factor ophthalmology

journals in the last decade. A decrease in the number of oculoplastic publications during the last decade was found. However, the annual rate of oculoplastic publications increased in the first 4y of the decade and after that decrease, reaching the lowest annual rate of oculoplastic publications in 2019. In the oculoplastic section, most of the articles during the examined period were about eyelid diseases and orbital diseases.

Kumar *et al*^[12] examined the publishing trends of the 7 top general clinical ophthalmic journals in 5y between 2005 to 2009, they found that only 4% of the publications were about oculoplastic. In this current study, we also found that between 2010 to 2019 in the 6 highest impact factor, general clinical ophthalmic journals, the rate was around 4%. Those small rates of oculoplastic publications may explained by the fact that there are less clinical trials which are done by oculoplastic surgeons^[13-14]. Moreover, there are less oculoplastic surgeons around the world compared to corneal, cataract or retinal specialties so maybe less oculoplastic studies are done^[15]. In order to verify this assumption, the number of articles that are submitted by each subspecialty should be known.

Although there was a significant decrease in the absolute number of oculoplastic publications during the years, the rate of oculoplastic publications during the years was almost the same. Therefore, it seems that oculoplastic publications have kept their position in the general, high impact factor, ophthalmology journal during the last decade.

Most of the oculoplastic articles were, in the first place about eyelid diseases and in the second place about orbital diseases. Those publications were more common than publications about lacrimal diseases. This outcome is in correspondence with knowledge that eyelids and orbital diseases have the major part of the oculoplastic illness and diseases^[1].

If orbital diseases and TED were calculated together, as orbital diseases, then orbital diseases will be more common than eyelid diseases. However, we decided to sperate TED from orbital diseases, because in the last years, there were a lot of new studies about immunotherapies treatments for TED^[16-20]. We wondered if this change, will cause to an increase in the number of articles about TED that were published in general, high impact factor, ophthalmology journals. However, no significant change in the number of publication of TED researches in the last decade was found.

The rate of publication focused on orbital diseases increased in the last 3y while articles about eyelid diseases significantly decreased in the last 5y. No new orbital diseases were found in the last 3y and there was continuous research about different eyelid diseases in the last years. Therefore, this trend cannot be explained by one reason. A re-examination of those trends should be done in a few years from now to investigate if those trends are just fluctuations or real changes.

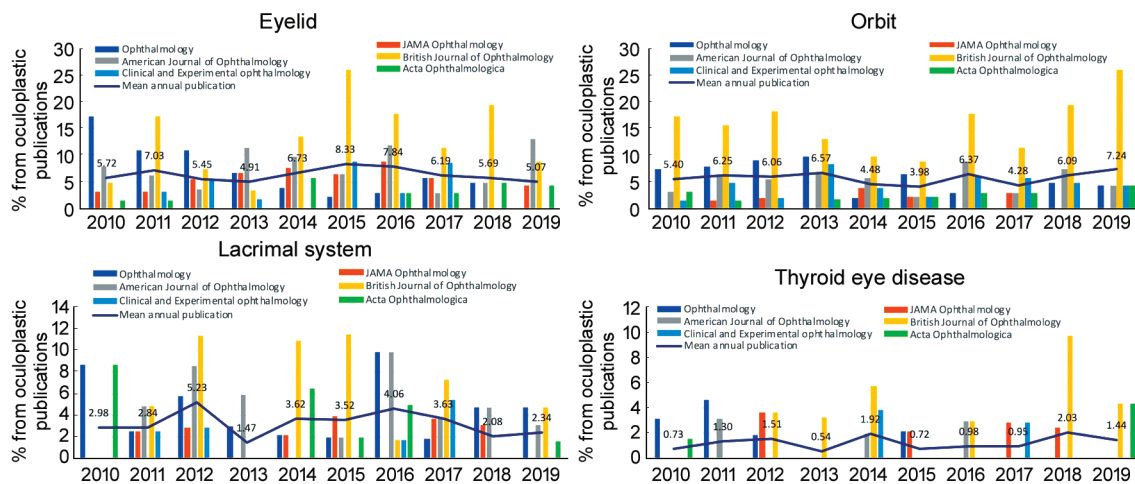


Figure 4 The rate of publication of each subgroup in each journal over the last 10y.

The strength of this study lies in the number of abstracts reviewed. Taking the 6 highest impact factor, general clinical journals over a 10y period allows a very large number of articles to be analyzed as well as to examine the trend in publication during the whole decade. Furthermore, this is the first time that the trend in publications of the oculo-plastic subgroups was examined. One weakness of the study is the lack of data on articles submitted to the journals and did not reach publication. Analysis including these data would give a greater indication of the number of oculo-plastic researches that were performed and of the acceptance rates of them.

Oculo-plastic subspecialty deal with pathologies of children as well as of adults. Some of those pathologies, effect patients' quality of life like: nasolacrimal obstruction that cause epiphora^[21], dermatochalasis that cause change in appearance^[22] etc. Others may cause vision threatening diseases like ptosis in neonates^[23], optic neuropathy due to TED^[24] etc. Moreover, there are some pathologies that are life threatening like Merckel cell carcinoma of the eyelids^[25], mucormycosis of the orbit^[26] etc. Therefore, all ophthalmologists should be aware of those diseases, to know to diagnose them and to refer to emergency rooms in cases of life threatening or vision threatening diseases. Reading studies about those diseases in the ophthalmology journals, is the most common way to be updated. As it is impossible to read all the 59 ophthalmology journals every month. Most of the general ophthalmologists choose to read the general ophthalmology journals^[27]. Therefore, it is important that those journals will include articles about breakthroughs in oculo-plastic.

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