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CLINICAL STUDY

Informing patients: oculoplastic surgery and the internet

FH Zaidi and CA Jones

Abstract

Aims **Oculoplastic surgery has received little attention compared with other subspecialties in terms of how the internet influences patient expectations. Blepharoplasty resembles a model for oculoplastic operations. We aimed to assess the quality of information accessed by patients on blepharoplasty using the internet as a resource.**

Methods **After surveying doctors and lay persons, the word 'blepharoplasty' and related terms were studied using an advanced keyword search. This scanned average monthly search volume over a recent 12-month period. The three most popular search terms that were found were entered into the Google search engine. Criteria published in the *Journal of the American Medical Association* for qualifying information from the internet were used in the analysis, yielding a possible score from 0 to a maximum of 4.**

Results **Of the 150 websites that were studied, these criteria were fully applied to 101 websites. Only 2.5% of sites scored favourably on all four criteria; 6.5% scored three points; 10% scored two points; 41% scored one point; 40% of sites scored zero for objective quality. Superior scores were achieved by online encyclopaedias ('medipedias'), peer-reviewed journals, online abstracts, and book chapters. The websites of professional bodies scored poorly. The lowest scored were private clinics and National Health Service (NHS) hospital websites.**

Conclusions **Using the internet, the quality of information obtained for oculoplastic surgery seems far inferior to other subspecialties within ophthalmology as well as non-ophthalmic specialties. These findings are specifically relevant to surgeons carrying out blepharoplasty and of general relevance to ophthalmic plastic surgeons.**

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Introduction

Patient perceptions are increasingly shaped by information obtained from the internet. Over half of all patients in western countries use the internet as a source for information.[1] The medical profession is increasingly concerned with key internet search terms used by patients.[2–5] Existing studies suggest that the quality of information available from the internet varies depending upon the medical topic and website.[2–5] However, there are comparatively few studies of this nature in ophthalmology. Martins and Morse[6] found that web-based information on retinopathy of prematurity is generally of good quality, although there were deficiencies in some areas. Kahana and Gottlieb[7] found that for age-related macular degeneration there was frequently a strong bias towards commercial sites, which contained relatively little quantitative data. There remains a paucity of work on the quality of information available on oculoplastic surgery.

In this study we used an instrument published in the *Journal of the American Medical Association (JAMA)* to assess the quality of information available on the internet.[1,8] The instrument that we chose correlates well with other validated instruments.[1] The search terms used in this study were 'blepharoplasty' and related terms. Blepharoplasty resembles a model for oculoplastic operations. This is for several reasons. It is a commonly carried out operation, which is undertaken for both visual and cosmetic reasons. Furthermore, as the surgery is promoted and discussed widely in the media, the patient group is more likely than most others to use the internet as a source for information. In addition, cosmetic lid surgery attracts commercial interest and this factor is

known to affect the quality of information available on the internet.[7]

Methods

After surveying doctors and lay persons, a keyword search for three related terms was carried out on the internet: 'blepharoplasty', 'eyebag' and 'eyebags'. This was carried out as follows. The internet was accessed from Internet Protocol addresses in the South-East of England. A manoeuvre known as 'keyword expansion' was then carried out. This extended the search to cover all popular search terms that are related to the above three search terms. It was achieved by employing an 'advanced keyword' search function on 'Google', which is currently the most popular search engine in the United Kingdom and worldwide. This advanced function identified the following terms: 'blepharoplasty', 'eyebags', 'blepharoplasty UK', 'eyebag', 'eyebag removal', 'blepharoplasty surgery', 'lidbag', 'lidbags', 'blepharoplasty surgery', 'lid bag', 'lid bags', 'eye bags', 'blepharoplasty cost', 'eye bag removal', 'eye bag', 'under eye bags', 'eye bag surgery', 'transconjunctival blepharoplasty', 'get rid of eye bags', 'how to get rid of eye bags', and 'lower blepharoplasty'. The average monthly search volume over a recent 12-month period was then obtained (requested 16 June 2008). This revealed that, out of all these search terms the three most popular were: 'blepharoplasty', 'eyebag removal', and 'eyebags'. These three search terms were then entered into the Google search engine.

Google produced several pages of websites for each of these search terms. However, in this study, only the first five pages for each search term were analysed, as users are unlikely to scroll beyond the first few pages.[3] The so-called 'pay-per-click' links used by the advertisers were ignored as these do not necessarily correlate with the user demand and represent only a commercial marketing strategy. Using the first five pages from Google, each of the three terms yielded 50 links to websites (10 per page). Hence, in total, 150 websites were studied using the three search terms.

The instrument published in *JAMA* to appraise the objective quality of a website considers the following four areas. Authorship should be clearly declared, with respective affiliations and relevant credentials. Attribution should note the sources of information and references. Disclosure with website ownership and conflict of interest statements is needed. Finally, there should be measures in place on the website to allow the reader to judge whether the information is current and recent, for example, by providing the date when the content was posted, or when it was last updated. Thus, the criteria yield a score ranging from 0 to a maximum of 4.

Results

Of the 150 websites that were examined, 49 were excluded from further analysis for the following reasons. There were 23 duplications (the same or different pages of a website); 17 websites constituted advertisements (mainly for skincare products); three were links to other search engines; three sites did not relate to blepharoplasty but to insomnia; two sites were directories of private clinics; and finally, one site had links to disclaimers and legal pages that were not accessible. Nevertheless, the proportion of websites that were excluded was substantially lower than those in recent studies.[1]

The *JAMA* criteria were applied to the remaining 101 websites. The results of analysis are shown (Figure 1). Most sites scored low for quality—40% scored zero for objective quality; 41% scored just one point; 10% scored two points; 6.5% of sites scored three points; only 2.5% of sites scored favourably on all four criteria. The commonest websites were those of private clinics (42%) followed by chat pages (10%) and healthcare resource pages (9%).

Sub-analysis of data (Figure 2) showed that a moderate to excellent mean score of 2, 3, or 4 was achieved by three categories of website. The first group of websites were those presenting information which was not primarily aimed at the lay reader (these contained peer-reviewed journals, online abstracts, and book chapters). The second group consisted of websites providing information on blepharoplasty, which was written by lay authors who were themselves not healthcare professionals. Regarding the latter group of authors, while they provided references to substantiate their opinions, these were not from peer-reviewed journals.

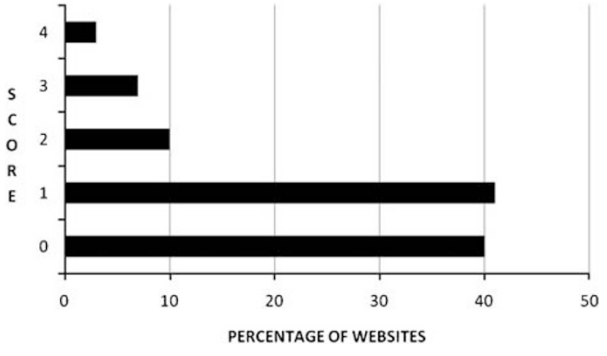

Figure 1 Quality of websites scored using criteria published in *JAMA*.

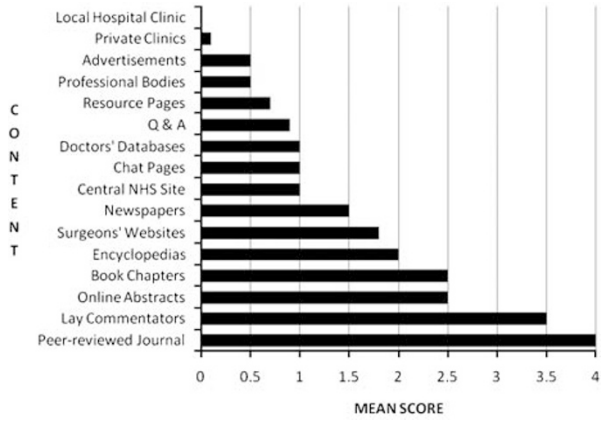

Figure 2 Breakdown of quality of information on the basis of website content: mean scores for different types of website. The maximum mean score for quality is 4.0 and the minimum score is 0.

The third group of websites were online encyclopaedias (median 1, mode 1) with the best quality of information on the internet being found in medipedias (online encyclopaedias specialising in medical topics), which achieved the maximum score.

Mean scores of <2 but of 1 or above were achieved by newspapers, chat pages, individual surgeons' professional websites, a central National Health Service (NHS) Department of Health website, and a database of medical specialists. Very low mean scores of <1 were achieved by question and answer (Q&A) sites, healthcare resource sites, websites of professional organisations representing ophthalmologists and plastic surgeons in the United Kingdom, North America, and Australia (median 0, mode 0), and by advertisers providing significant medical information as part of promoting commercial products. Finally, the lowest mean scores were obtained by private clinics (median 1, mode 1) and by NHS hospital websites.

Discussion

For rating the quality of a medical website, there are at least 98 instruments to choose from.[9] Many of these instruments have been criticised.[9] However, in this study, an extensively validated instrument was used with evidence of interobserver reliability and construct validity, as used by both doctors and patients.[1,8,9] This suggests that the data from this study is not artefactual.

Using the internet, the quality of information available for oculoplastic surgery is considerably inferior to other subspecialties within ophthalmology, as well as in comparison with non-ophthalmic specialties.[1,6,7] Unlike earlier studies, this study did not find that the use of highly specialised search terms was likely to direct users of the internet to good quality information. This may be because specialised medical terminology is being increasingly used by large numbers of websites, including those websites, which are aimed at lay readers.

The poor quality of information that is available on blepharoplasty is partly related to the existence of a high proportion of commercial websites, for example, private clinics. This trend was also noted in a similar study with age-related macular degeneration.[7] We did not, however, find any evidence to suggest that individual surgeons had provided misleading information on their professional websites, despite the latter phenomenon being reported recently in orthopaedics.[1] Although it may be suggested that private clinics deliberately provide unbalanced information in the interest of profiteering, we could find no evidence of this practice in ophthalmic plastic surgery. In this regard, it is interesting to note that the websites of hospitals within the NHS (which provide healthcare free at the point of delivery) scored below private clinics for objective quality of information.

Another counter-intuitive result was also found. These were the websites of professional bodies representing ophthalmologists, ophthalmic plastic surgeons, and general plastic surgeons. Although these websites scored better than private clinics, they nevertheless scored poorly. Similar to private clinics, they suffered from the same shortcomings, which were as follows. First, the information on blepharoplasty, although often beautifully illustrated, had no recognisable author or references. Second, there were few conflict of interest statements. Third, there was no indication of the date when the information was posted.

In analysing the best-scoring sites, some points are also worth noting. Though it scored well, the information found in peer-reviewed journals was overly specialised for the lay reader and the language was highly technical. Out of the sites that scored well, the most readable information was offered by medipedias.

Patient misinformation can be a major cause of dissatisfaction for both doctor and patient. This is especially important in areas of medical practice wherein outcomes are more subjective, such as in oculoplastic surgery. A survey of over 1000 doctors found that the majority of physicians had experienced patients who brought information from the internet to their consultation.[10] A total of 38% of these physicians felt that this information actually harmed the consultation and only 16% felt that it had a beneficial effect. This study identifies the poor quality of information on oculoplastic surgery, which is available to patients using the internet.

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