ORIGINAL ARTICLE

Open Access Journal Policies: A Systematic Analysis of Radiology Journals

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Abstract

Objective: The open access movement has pushed for greater access to scientific knowledge by expanding access to scientific journal articles. There is limited information about the extent to which open access policies have been adopted by radiology journals. We performed a systematic analysis to ascertain the proportion of radiology journals with open access options.

Materials and Methods: A search was performed with the assistance of a clinical informationist. Full and mixed English-language diagnostic and interventional radiology Web of Science journals (impact factors > 1.0) were included. Nuclear medicine, radiation oncology, physics, and solicitation-only journals were excluded. Primary outcome was open access option (yes or no) with additional outcomes including presence or absence of embargo, complete or partial copyright transfer, publication fees, and self-archiving policies. Secondary outcomes included journal citations, journal impact factors, immediacy, Eigenfactor, and article influence scores. Independent double readings were performed with differences resolved by consensus, supplemented by contacting editorial staff at each journal.

Results: In all, 125 journals were identified; review yielded 49 journals (39%, mean impact factor of 2.61). Thirty-six of the journals had open access options (73.4%), and four journals were exclusively open access (8.2%). Twelve-month embargoes were most commonly cited (90.6%) with 28.6% of journals stating that they did not require a complete transfer of copyright. Prices for open access options ranged from $750 to $4,000 (median $3,000). No statistically significant differences were found in journal impact measures comparing journals with open access options to journals without open access options.

Conclusions: Diagnostic and interventional radiology journals have widely adopted open access options with a few radiology journals being exclusively open access.

Key Words: Open access, copyright, journal policies, archiving

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INTRODUCTION

The digital revolution has transformed societies by enabling anyone with an Internet connection to access an incredibly broad variety and depth of information at no cost. Recently, the open access movement has advocated for greater access to scientific knowledge by pushing publishers to loosen restrictions on online availability of scientific journal articles [1]. Consequently, the overall number of journals providing open access options has increased with variable adoption among different fields [2]. As a specialty with a large depth of research content and pictorial content [3], several imaging journals have recently adopted open access journal policies to facilitate the transmission of images for research and educational purposes [4]; however, there is limited information about the extent to which open access policies have been adopted by radiology journals. We performed a systematic review of diagnostic radiology and interventional radiology journals to ascertain the proportion of radiology journals with open access options.

MATERIALS AND METHODS

Systematic review study design followed Cochrane handbook guidelines with assistance of a clinical

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informationist (K.L.). Reporting of systematic review followed Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines for reporting systematic reviews [5]. Institutional review board approval was not required because the study utilized publically available information.

Information Sources and Search Strategy

Journals selected for review were selected from Web of Science journal collections (list of journals accessed on March 17, 2016). The Web of Science journal collection was selected because it not only contains lists of journals but also contains impact factor information. With the assistance of a clinical informationist, we accessed the Web of Science website, clicked on Journal Citation Reports, and then selected the "Radiology, Nuclear medicine and Medical Imaging" category.

Eligibility Criteria

Inclusion criteria included full and mixed English-language diagnostic and interventional radiology journals located within the Web of Science journal collection with impact factors greater than 1.0. Nuclear medicine, radiation oncology, and medical physics journals were excluded as well as solicitation-only journals. After obtaining the final list, the list was reviewed for face validity.

Data Collection Process

Websites of each journal were searched for relevant journal policies. Independent double readings were performed with discrepancies resolved by consensus of the two study readers (J.F. and A.N.) and contacting editorial staff at each journal by email on October 14, 2016, with a reminder e-mail sent on November 1, 2016.

Data Items

Our primary outcome was whether or not journals allowed open access option (yes or no). Additional outcomes included type of open access options (green or gold), presence or absence of embargo for publication and duration of embargo, complete or partial transfer of copyright from the author to the publisher, publication fees for standard publication or open access and journal origin (United States, non–United States). Gold open access policies refer to author options that make publication freely available to the public directly on a journal's web page, which usually requires payment of a fee. Green open access policies refer to options that allow publications to be made available for free elsewhere, such as in institutional archives or file repositories. Embargoes refer to periods for which the full text of journal articles is restricted to journal subscribers only. Self-archiving policies were described using the Rights Metadata for Open Archiving (ROMEO) color scale with additional categorizations performed regarding the time at which self-archiving of publications would be permitted. The ROMEO color scale describes journal archive policies at various stages of publication. Green policies allow archiving preprint and postprint, blue policies allow archiving postprint, yellow policies allow archiving preprint, and white policies do not formally support archiving policies.

Additional journal metrics were collected from the Web of Science on September 23, 2017, including total number of citations, 2016 journal impact factor, 5-year impact factor, article influence, immediacy, and Eigenfactor scores. Immediacy scores indicate how quickly articles in a journal are cited by calculating the average number of times an article is cited the year the article is published. Eigenfactor scores are ratings that attempt to rate the total importance of a scientific journal by ascertaining the number of incoming citations and weighting the citations from more highly ranked journals more than citations from lower ranked journals. Article influence scores determine the average influence of a journal's articles the first 5 years after publication, calculated by multiplying the Eigenfactor score by 0.01 and dividing by the number of articles in the journal.

Summary Measures

Our primary outcome was the proportion of radiology journals with open access options. Descriptive statistics were calculated for binary outcomes (yes or no) with 95% confidence intervals (CIs). Bivariate analyses were performed using logistic regression to evaluate if there were differences in the proportion of journals with open access options by copyright transfer policies, self-archiving policies, and impact factor. Additionally, bivariate analyses were performed using linear regression to evaluate if there were differences in total citations, journal impact factors, article influence, immediacy, and Eigenfactor scores comparing journals with open access options to journals without open access options. Analyses were conducted using STATA 11 (StataCorp, College