

Duplicate Publications in Korean Medical Journals Indexed in KoreaMed

Duplicate publication is considered unethical. It has several negative impacts. To estimate the frequency and characteristics of duplicate publications in Korean medical journals, we reviewed some portion of Korean journal articles. Among 9,030 articles that are original articles indexed in KoreaMed from January to December 2004, 455 articles (5%) were chosen by random sampling. PubMed, Google scholar, KMBase, and KoreaMed were searched by two librarians. Three authors reviewed titles, abstracts, and full text of index articles and suspected articles independently. Point of disagreement were reconciled by discussion. Criteria for a duplicate publication defined by editors of cardiothoracic journals and International Committee of Medical Journal Editors were used. A total of 455 articles were evaluated, of which 27 (5.93%) index articles were identified with 29 duplicate articles. Among 27 index articles, 1 was quadruple publication and 26 were double publications. Of 29 duplicated articles, 19 were classified as copy, 4 as fragmentation, and 6 as disaggregation. The proportion of duplicate publications in Korean medical journals appears to be higher than expected. Education on publication ethics to researchers is needed.

Key Words : Duplicate Publication as Topics; Korea; Periodicals as Topic; Publishing

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INTRODUCTION

Duplicate (or Redundant) publication can be defined as "publication of a paper that overlaps substantially with one already published in print or electronic media" (1). The practice of duplicate publications is considered unethical because it both artificially exaggerates the findings or ideas and wastes the time and resources of editors, peer reviewers, and readers (2). Covert duplicate publication is dishonest. It also breaks the integrity of science and even distort copyright laws.

The prevalence of duplicate publications has been estimated in a few areas including nursing (3), ophthalmology (4), and otolaryngology (5); several journals including journal of hand surgery (6), Archives of Otolaryngology (7), and Netherlands Tijdschrift voor Geneeskunde (8). Duplicate publication rates of randomized controlled trials in a few clinical intervention has also been estimated (9, 10). The estimated duplication rate were 1.8-28% in clinical fields and journals (4-8), and around 10% in clinical trial publications (9, 10). To our knowledge, this problem has not been evaluated at a nationwide level.

Recently, the criteria for a duplicate publication have been clearly defined by editors of cardiothoracic journals (11), and acceptable secondary publication also have been defined by

International Committee of Medical Journal Editors (ICMJJE) (1).

Using these criteria as guidelines, we reviewed some portion of Korean journal articles indexed in KoreaMed at 2004 to estimate the frequency, patterns, and characteristics of duplicate publications in Korean medical journals.

MATERIALS AND METHODS

Five percent of original articles indexed in KoreaMed (www.koreamed.org) from January to December 2004 were reviewed. Out of 9030 articles, Index articles were chosen by random sampling using Microsoft Excel's function "=ROUND (RAND()*9030,0)". Review articles, letters, and editorials were excluded. After exclusions, there were 455 remaining index articles. A PubMed (www.pubmed.gov) and Google Scholar (scholar.google.co.kr) systems were screened using key words from the title and the names of the first, second, and last authors. To find Korean medical articles not indexed in PubMed, the KMBase (kmbase.medric.or.kr), and KoreaMed were searched using similar search terms. Searching was done by two librarians, who also selected suspected dual publication in a most sensitive mode. Three authors reviewed

Table 1. Criteria for duplicate publication and acceptable secondary publication

Criteria for duplicate publication	Criteria for acceptable secondary publication
The hypothesis is similar	The authors have received approval from the editors of both journals
The numbers or sample sizes are similar	The priority of the primary publication is respected by a publication interval of at least one week
The methodology is identical or nearly so	The paper for secondary publication is intended for a different group of readers
The results are similar	The secondary version faithfully reflects the data and interpretations of the primary version
At least 1 author is common to both reports	The footnote and title on the title page of the secondary version
No or little new information is made available	

titles and abstracts of screened articles. If all three reviewers agreed on whether suspected articles were duplicate or not, no further process was done. The remaining full versions of the index and suspect articles were read, and the contents, methods, subjects and results were compared separately by three reviewers. The results were then collated. In a small number where differences of opinion were found, these were debated until a consensus was achieved. Dual publication of the information was graded as suggested by editors of cardiothoracic journals (11) and ICMJE (1) (Table 1).

The patterns of duplicate publication were described as von Elm *et al.* (10) had suggested as follows:

- Pattern 1 : copy
- Pattern 2 : fragmentation (salami slicing)
- Pattern 3 : disaggregation (Imalas)

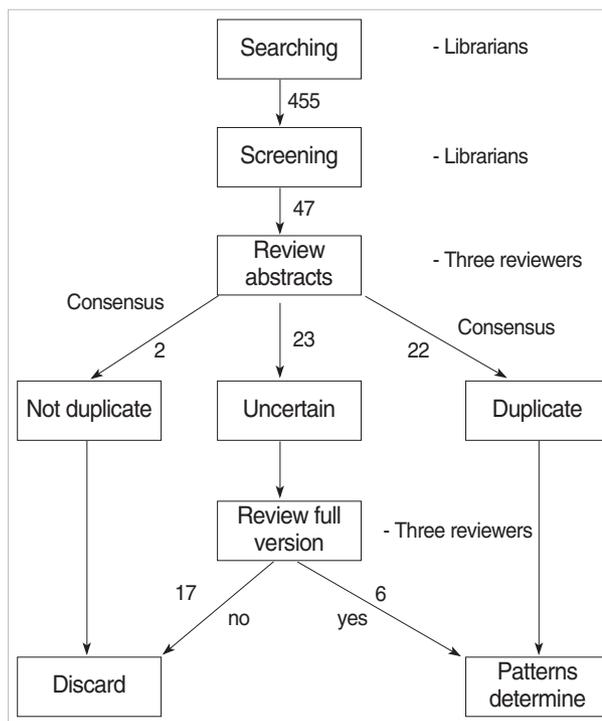
RESULTS

Out of 455 articles, 47 articles were screened, which led to 59 suspected duplicate publications. After a review of the abstracts, two were found to have been unfairly suspected. Twenty two articles were associated with duplicate articles. After a thorough full text review of the remaining 23 articles, 17 were found to be non-duplicate and 6 were confirmed as duplicated articles (Fig. 1). A total of 455 articles were evaluated, of which 27 (5.93%) index articles were identified with 29 duplicate articles.

Among the 27 index articles, one was quadruple publication and 26 were duplicate publications. According to journal scopes, 3 could be classified as general medicine articles, 13 as primary specialty articles, and 11 as subspecialty articles. Of 29 duplicated articles, 19 were classified as copy (Pattern 1, 65.5%), 4 as fragmentation (Pattern 2, 13.8%), and 6 as disaggregation (Pattern 3, 20.7%). The language direction of duplication texts can be classified as Korean to Korean (14 articles, 48.3%), Korean to English (13, 44.8%), and English to Korean (2, 6.9%).

DISCUSSION

To estimate the amount and patterns of duplicate publications done by Korean medical researchers, we reviewed

**Fig. 1.** Schematic diagram of the process and results of this study.

some portion of Korean journal articles indexed in KoreaMed in 2004. Our study recognized that 5.93% of the publications were duplicate. Most estimates on the frequency of duplicate publications were based on small studies, often concerning only one journal or one small research field. A larger scale studies on the prevalence of duplicate publication in ophthalmology (4) and otolaryngology (12) were published in 2004 and 2002, respectively. Mojon-Azzi *et al.* developed an electronic search engine to estimate the amount of duplicate publications in 70 ophthalmologic journals indexed by MEDLINE. They observed that 1.39% of the publications were redundant (4). Bailey screened 24,353 articles written by 1,965 authors of Association Archives of Otolaryngology-Head and Neck Surgery for 8 yr. They found that 443 articles (1.8% of duplication rate) were published with some degree of duplication (12). The difference in the rates could be due to variance in study design, sampling error and strictness and rigidity in the definition of duplicate publication. The study that used the same definition of duplicate publi-

cation with ours suggested a 1.4% of duplication rate (4). It is hard to consider that our estimate is high or low, because there is no control. Anyhow, the observed rate of duplicate publications was rather high.

The reasons for duplicate publication may be diverse. The authors may have no concept of duplicate publication, or may desire to approach to different audience groups. However, in most cases, duplicate publication occurs to boost the author's bibliography (6), in other words, author may feel pressure to publish more for career progression. However, the concept of duplicate publication has been introduced to Korea since 2005, and thus the ignorance of the Korean medical researchers may be the main reason.

Our study have some limitations. First, limitations of time and budget permitted the analysis of only 5% samples of total articles. Despite our efforts to select authors at random, it is possible that the population of articles not analyzed differs substantially from the authors who were studied. Second, even though every effort was made to avoid bias and to be consistent, the judgments and the categorizations were subjective in nature. However, to avoid subjective judgements, three reviewers separately reviewed the articles, and discussions for a consensus were made. Third, our study design placed a heavy reliance on the similarity of titles of different articles, and thus, some duplicate publications may have escaped the review.

The concept of duplicate publication and publication ethics were introduced to Korea since 2005, and we have had campaigns to follow the publication ethics. In 2004, Korean researchers might have no concept, which may explain the present high rate. Therefore, if we reinvestigate the duplicate publication rate in Korean medical journals after 2005, we should find much reduced rates. The reduction from our present result will reflect the impact of dissemination efforts of publication ethics including duplicate publications in Korean medical research field.

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