Original Article

Articles Published in *Korean Journal of Family Medicine*: Impact of COVID-19 on Study Trends

Byung Ho Kong, Jae Kyung Choi*, San-Sung Lee, Ji Young Kim

Department of Family Medicine, Konkuk University Medical Center, Seoul, Korea

**Background:** The *Korean Journal of Family Medicine* (KJFM), which is an official journal of the Korean Academy of Family Medicine, is an English-text medical journal published since 2009. Although nearly 15 years have passed since the journal was launched, to the best of our knowledge, no study has reviewed articles published in the KJFM. Accordingly, we analyzed articles published in the KJFM for the first time.

**Methods:** Articles published in the KJFM between January 2018 and November 2023 were categorized according to article type. Information about author affiliations, study subjects, research methods, and modes of data collection was then scrutinized. Moreover, we compared the frequencies of subjects, research methods and modes of data collection before, during, and after the coronavirus disease 2019 pandemic.

**Results:** Original article was the most common article type. Approximately 52% of the articles were published by authors affiliated with departments other than family medicine, and 40% were published by family medicine. Approximately 60% and 38% of the articles were published by Korean authors and authors of international affiliations, respectively. Throughout the pandemic periods, research subjects focusing on “diseases & symptoms” have diminished, while “principles of family medicine” have progressively increased. Additionally, the use of cross-sectional study methods has declined. In terms of data collection, the use of “big data,” “medical records,” and “questionnaires” has decreased, whereas the use of “study results” has increased.

**Conclusion:** KJFM is a journal with wide and international participation covering various research subjects and study methods. We believe that our study provides valuable data for the future direction and development of the KJFM.

**Keywords:** Research; Study Design; Research Subjects; Analysis; Family Medicine
INTRODUCTION

The Korean Journal of Family Medicine (KJFM) is the official journal of the Korean Academy of Family Medicine (KAFM). KJFM is an online, open-access, peer-reviewed general medical journal published 6 times per year and its main purpose is providing up-to-date evidence-based medical knowledge to family physicians and primary care clinicians. The journal covers a broad range of study subjects related to the field of family medicine and primary care, including primary diseases (e.g., hypertension, diabetes, metabolic syndrome, etc.), health promotion (e.g., smoking cessation, lifestyle modification, nutrition, immunization, etc.), cancer-related issues (e.g., cancer survivor management, hospice-palliative, etc.), geriatric medicine, health care for adolescents, education of medical students and resident trainees, and introduction of novel clinical procedures, among others. The variety of subjects covered in this journal has assisted a great number of physicians in the field of primary care for a long time. KJFM has a long history dating back to November 1980, when the Journal of the Korean Academy of Family Medicine (JKAFM), a previous form of KJFM, was first launched. The name of the journal was changed from JKAFM to KJFM in 2009, and the language of the text was changed from Korean to English in December 2011 to recruit papers from outside Korea and disseminate invaluable information to international countries.

JKAFM articles have been analyzed 3 times since its first publication. First analysis was conducted by Seo et al.1) in 1990. The authors examined articles published in JKAFM from November 1980 to June 1989 by evaluating the classification of the article types and topics, statistical methods, research methods, and modes of data collection. The second analysis was introduced in 1994 by Seo2) and included articles published in JKAFM from 1980 to 1992 for a closer investigation. The last analysis of articles of JKAFM was published in 1998 by Sim et al.,3) in which they evaluated articles published in JKAFM from November 1980 to December 1996. This study classified the articles according to article type and analyzed the research methodology, topics, statistical methods, and trend changes over time. Articles and topics introduced in other family medicine-related journals and conferences in Korea have been analyzed more recently. Ha et al.4) evaluated academic dissertations for master’s and doctoral degrees in family medicine from 1992 to 2005. Lim et al.5) analyzed trends in the subjects and participants of family medicine conferences between 1992 and 2007. Most recently, Cho et al.6) analyzed articles published in family medication-related journals. The authors analyzed articles published in the Korean Journal of Family Practice (KJFP), a Korean text-language journal, from 2011 to 2016 by classifying the article types and examining the study methods and modes of data collection. Since then, to the best of our knowledge, no study has analyzed the articles and trends in family medicine-related journals or conferences in Korea. In particular, no study has analyzed articles of the KJFM since it changed its journal title and changed its journal title and text-language to English only.

We analyzed articles published in the KJFM from 2018 to 2023. Information about author affiliations and nationalities, frequencies of the study topics, study methods, and modes of data collection were scrutinized. Moreover, we compared changes in trends before, during, and after the coronavirus disease 2019 (COVID-19) pandemic. Since the previous analysis of the previous form of the journal, JKAFM, in 1998, this is the first analysis since it was first launched in 2009 under the name KJFM. We believe that our study reflects the current status of the journal and can guide future directions and aid in the further development of KJFM.

METHODS

1. Study Inclusion

Articles published in the KJFM between January 2018 and November 2023 were collected from the official website (https://www.kjfm.or.kr/). All articles were then categorized according to the article type: editorial, erratum, letter, original article, review article, clinical practice guideline, case report, and brief communication. Articles on editorials, errata, and letters were excluded from the study. Those classified as original article, review article, case report, and clinical practice guideline were included in the analysis.

2. Author Analysis

Information on author affiliations and nationalities was analyzed. All included articles were classified by the authors’ affiliation into the following categories: family medicine departments, non-family medicine departments, and collaboration between the two. The articles were also classified according to the nationality of the author affiliations as follows: author affiliations of Korean nationality only, international author affiliations only, and co-work by authors of Korean and international affiliations. The proportion of articles according to the category of author affiliations and nationalities of author affiliations was statistically analyzed and presented as circle graphs. All the countries of international affiliations were counted and listed. Additionally, the proportions of articles by international affiliations were compared by year through 2018 to 2023.

3. Study Subject Analysis

All the subjects covered by the articles were categorized according to six major categories: (1) “diseases & symptoms,” (2) “disease prevention & health promotion,” (3) “principles of family medicine,” (4) “clinical procedure & tool,” (5) “committee,” and (6) “others” and minor sub-categories under each major category. We used the classification by Cho et al.8) with a few changes. Unlike Cho et al.,8) in which “diseases” and “symptoms” were two separate categories, we combined these and formed one major category of “diseases & symptoms.” We also changed the category name “clinical procedures” to “clinical procedure & tool” because we thought this would better explain its implications. Changes were also made to minor categories taken from Cho et al.8) for better classification of current medical situations. “The textbook of family medicine” was also used as a reference for the classification.9) “Diseases & symptoms” was sub-categorized into medical,
psychiatric, musculoskeletal, neurologic, pediatric, obstetrics/gynecology, surgical, COVID-19 related, and others. “Disease prevention & health promotion” was sub-categorized into smoking, alcohol consumption, obesity, physical activity, lifestyle, sleep, stress, nutrition, preventive health care, immunization, and others. “Principles of family medicine” was further sub-categorized into public health, geriatric medicine, hospice-palliative medicine, family-based treatment and approach, adolescent health care, patient communication, education and compliance, primary care, and quality of life. “Clinical procedure & tool” was sub-categorized into handgrip strength, practice guideline, ultrasound, and others, and “committee” was sub-categorized into education, policy, and training. Subjects who did not belong to any of these major categories were classified as “others.” If an article consisted of more than one study topic, these were classified into more than one subject category. For example an article titles “Association of alcohol consumption and smoking behaviors with depressed mood according to gender in Korean young adults” was categorized into two subject groups: “disease prevention & health promotion” with sub-categories of smoking and alcohol drinking and “diseases & symptoms” with a sub-category of psychiatric. The proportions of articles according to each category were compared before (2018–2019), during (2020–2022), and after (2023) the COVID-19 pandemic.

4. Study Methods and Data Collection Analysis
The study methodology was divided into “observational study,” “experimental study,” and ‘others.’ Cross-sectional, cross-sectional with case-control design, case-control, case series, prospective and retrospective cohort, longitudinal, and qualitative study methods were categorized under observational study methods. Randomized controlled trials and interventional before-and-after studies were classified as experimental study methods. Study methods other than observational or experimental were classified as “others,” which included systematic review and meta-analyses and literature review. Data collection methods were analyzed and categorized as follows: big data, medical records, questionnaire, study results, interview, direct measurement, internet, test results, video, and combination of these methods. The proportions of study methods and modes of data collection according to each category were compared before (2018–2019), during (2020–2022), and after (2023) the pandemic.

5. Statistics
All statistical analyses were conducted using the IBM SPSS Statistics ver. 26.0 (IBM Corp., Armonk, NY, USA).

RESULTS
1. Article Types
A total of 339 articles, excluding editorial, erratum, and letter, were published between January 2018 and November 2023 (Figure 1). Among them, 250 (73.7%) were original articles, 44 (13%) were review articles, 38 (11.2%) were case reports, 6 (1.8) were brief communications, and 1 (0.3%) was a clinical practice guideline (Table 1). In 2018, a

Table 1. Classification of article types by year

<table>
<thead>
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<th>Classification</th>
<th>Year</th>
<th>Total</th>
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<tr>
<td></td>
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<td>Original article</td>
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<td>Case report</td>
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<td>6 (10.3)</td>
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<td>Brief communication</td>
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</table>

Values are presented as number (%).
Among the 339 articles, 176 (52%) were published by authors with affiliations other than family medicine, 137 (40%) by authors affiliated with departments of family medicine, and 26 (8%) were studies conducted with the cooperation of authors of family medicine and others (Figure 2). Author affiliations other than family medicine were composed of a variety of departments and fields: clinical and non-clinical academic departments, education departments, healthcare departments, government related public health division, private corporations, and local clinics. Authors of clinical departments other than family medicine were most commonly affiliated to internal medicine followed by neurology, radiology, psychiatry, ophthalmology, dermatology, rehabilitation, pediatric, otolaryngology, and so forth. Non-clinical academic departments included preventive medicine, statistics, microbiology, immunology, anatomy-pathology, epidemiology, and so forth. Other healthcare related affiliations included nursing, nutrition and food, physical therapy, pharmaceutical, and so forth.

Among the 339 articles, 205 (60%) were by authors belonging to Korean affiliations, 129 (38%) of international affiliations, and 5 (2%) by co-works of authors of Korean and international affiliations (Figure 3).

Excluding Korea, the author affiliations of 33 countries over six continents participated in studies published in the KJFM from 2018 to 2023. Malaysia was the most frequently participating country, followed by Iran, the United States, Indonesia, India, and Turkey (Table 2). A total of 17 countries were from Asia, six from Europe, four from Africa, and two each from North America, South America, and Oceania/Australia. Although a minor decrease in the proportion was observed in 2022, the overall trend in the international participation ratio showed a distinct tendency of an upturn through 2018 to 2023 (Figure 4).

3. Research Subjects
A total of 435 study subjects were discussed in 339 articles published in the KJFM through 2018 to 2023 (Table 3). The most frequently studied topic was “disease & symptoms” (228 articles, 52.4%), followed by “disease prevention & health promotion” (104 articles, 23.9%), “principles of family medicine” (76 articles, 17.5%), “clinical procedure & tool” (12 articles, 2.8%), “committee” (10 articles, 2.3%), and “others” (five articles, 1.1%).

Under the major topic of “disease & symptoms,” a sub-category of “medical” was most frequent (119 articles, 52.2%) followed by “psychiatric” (24 articles, 10.5%), “others” (23 articles, 10.1%), “musculoskeletal” (16 articles, 7%), “neurologic” (14 articles, 6.1%), “COVID-19 related” (12 articles, 5.3%), “pediatric” (10 articles, 4.4%), “obstetrics/gynecology” (nine articles, 3.9%) and “surgical” (one article, 0.4%). Under a sub-category of “medical,” diabetes mellitus (22 articles, 18.3%) was the most frequent topic followed by cardiology and cardiovascular (20 articles, 16.7%), gastrointestinal (13 articles, 10.8%), metabolic syndrome (11 articles, 9.2%), nephrology (eight articles, 6.7%), diseases related to bone density (seven articles, 5.8%), respiratory (seven articles, 5.8%), and so forth. A sub-category of “others” under “disease & symptoms” was composed of ear, nose, and throat (six articles 27.3%), dermatology (three articles, 13.6%), and so forth.

Under a major topic of “disease prevention & health promotion,” a sub-category of “smoking” (24 articles, 23.1%) was most frequently discussed, followed by “obesity” (21 articles, 20.2%), “alcohol drinking” (13 articles, 12.5%), “physical activity” (10 articles, 9.6%), “lifestyle” (seven articles, 6.7%), “preventive health care” (seven articles, 6.7%),
“sleep” (seven articles, 6.7%), “nutrition” (six articles, 5.8%), “immunization” (four articles, 3.8%), “stress” (three articles, 2.9%), and “others” (two articles, 1.9%). “Others” in this section included topics of fatigue and anti-aging. Under the major topic of “principles of family medicine,” a sub-category of “public health” (18 articles, 23.7%) was most commonly studied topic, followed by “geriatric medicine” (14 articles, 18.4%), “patient communication, education and compliance” (11 articles, 14.5%), “family-based treatment & approach” (eight articles, 10.5%), “primary care” (eight articles, 10.5%), “quality of life” (seven articles, 9.2%), health care of adolescence (seven articles, 9.2%), and “hospice-palliative medicine” (three articles, 3.9%). A major topic of “clinical procedure & tool” was comprised of “handgrip strength” (six articles, 50%), “others” (four articles, 33.3%), “practice guideline” (one article, 8.3%), and “ultrasound” (one article, 8.3%). “Others” included topics of spinal tapping, carbohydrate antigen 19-9, brachial ankle pulse wave velocity, and pharmacovigilance. The major topic of “committee” was composed of “education” (five articles, 50%), “policy” (four articles, 40%), and “training” (one article, 10%). Finally, study

Table 2. Nationality of international author affiliations (total=33 countries)

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<th>2019</th>
<th>2020</th>
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Figure 4. Proportion of articles participated by authors of international affiliation through 2018–2023.

https://doi.org/10.4082/kjfm.24.0023
topics that did not belong to any of these major categories were classified as “others,” which included topics of research, certificate, elder abuse, and social media.

The proportions of articles by major category were compared before (2018–2019), during (2020–2022), and after the COVID-19 pandemic (2023) (Figure 5). The proportions of “diseases & symptoms” decreased from 57.6% before the pandemic to 49.8% and 48.1% during and after, respectively. The proportions of “disease prevention & health promotion” and “committee” exhibited minimal change during the 6-year period. On the other hand, the proportions of “principles of family medicine” gradually increased from 13.3% before the pandemic to 19.7% and 20.4% during and after the pandemic, respectively. For “clinical procedure & tool” the ratios were 1.3%, 4.5%, and 0% before, during, and after the pandemic, respectively. Lastly, 0% of 0.9% and 5.6% of the articles were categorized as “Others” before, during, and after the pandemic, respectively.
4. Study Methods

Various study methods were used in a total of 246 articles (Table 4). Approximately 82% were an observational study, with cross-sectional study (135 articles, 54.9%) being the most frequently used method. Other research methods for observational study included cross-sectional with case-control (17 articles, 6.9%), prospective and retrospective cohort (16 articles, 5.7%), case-control (eight articles, 3.3%), longitudinal (eight articles, 3.3%), and qualitative study (four articles, 1.5%). Approximately 9.7% of the articles published were an experimental study with randomized controlled trial (20 articles, 8.1%) and before-and-after study (four articles, 1.6%). Systemic review and meta-analyses (10 articles, 4.1%) and literature review (10 articles, 4.1%) were other study methods used in the articles published through 2018 to 2023.

The proportion of articles with a cross-sectional study method decreased from 58.5% before the pandemic to 54.6% during and 45.5% after the pandemic. The proportions of cross-sectional with case-control study were 11.7%, 2.5%, and 9.1% before, during, and after the pandemic, respectively. The proportions of prospective and retrospective cohort, case series, and case-control study were 2.1%, 5.3%, and 6.4% before, 10.9%, 5.9%, and 1.7% during, and 3%, 6.1%, and 0% after the pandemic, respectively. Longitudinal and qualitative study accounted for 4.3% and 1.1% before, 3.4% and 1.7% during, and 0% and 3% after the pandemic, respectively. For experimental study, the ratios of randomized controlled trial were 5.3%, 10.9%, and 6.1% before, during, and after the pandemic, respectively. Longitudinal and qualitative study accounted for 4.3% and 1.1% before, 3.4% and 1.7% during, and 0% and 3% after the pandemic, respectively. For experimental study, the ratios of randomized controlled trial were 5.3%, 10.9%, and 6.1% before, during, and after the pandemic, respectively. Longitudinal and qualitative study accounted for 4.3% and 1.1% before, 3.4% and 1.7% during, and 0% and 3% after the pandemic, respectively. For experimental study, the ratios of randomized controlled trial were 5.3%, 10.9%, and 6.1% before, during, and after the pandemic, respectively.

5. Data Collection Modes

Over 10 different modes of data collection were used for the research discussed in the articles (Table 5). Among the 303 articles that applied the data collection methods listed in Table 5, “big data” and “medical record” were the most widely used, accounting for 36% and 24.1% of


DISCUSSION

Overall, our analysis of 339 articles published in KJFM from 2018 to 2023 revealed that original article was the most common article type; however, this type displayed a consistent decrease in proportion during the 6-year period of analysis. Approximately 60% of the articles were studies in which authors affiliated with non-family medicine departments participated and 40% involved authors of international affiliations. Author affiliations from over 33 different countries participated in studies published in KJFM and the involvement of international affiliations showed an increasing trend during the 6-year period. “Diseases & symptoms” was the most studied topic and cross-sectional study and data collection methods of “big data” and “medical records” were the most frequently used.

We believe that the large proportion of articles by authors of non-family medicine-related affiliations implies a versatile application of the academic field of family medicine and KJFM. Family medicine is a field of medical specialty that covers a broad range of diseases and healthcare principles across all ages, genders, and parts of the body. The wide spectrum of author affiliation in KJFM includes not only clinical and pre-clinical departments but also departments or divisions other than medicine or health care, such as forest and environmental sciences, media and communications, sports science, biomedical engineering, social welfare, sociology, kinesiology and recreation, zoology, and more. We believe that this heterogeneity in author affiliations enables the introduction of diversity to subjects and knowledge in the journal, which can help primary physicians and clinicians in different countries and environments.

Our results reveal a consistently increasing trend in the involvement by authors of international affiliations. Although a minor decrease was observed in 2022 from that of 2021, the number was still larger than before 2020 and this ratio immediately rises in 2023. In 2021, an 18% increase in the proportion of such involvement compared to 2020 was observed. The period during 2020 and 2021 were the peak years of the pandemic. Paradoxically, this pandemic period with quarantines among countries and social distancing may have triggered more active exchange of research and knowledge internationally through online means. In fact, during this period, many academic conferences were held non-face-to-face through online means. This enabled researchers and scholars to participate in conferences held in other countries more easily, which they would not be able to easily attend if it was held face-to-face. This constant increase in the number of articles by authors of international affiliations implies that KJFM is gradually becoming more internationally involved in terms of both readers and authors. This is a positioning that accords with the previous purpose of

| Table 5. Data collection methods before, during, and after COVID-19 pandemic |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|
| Total no. of articles         | 111              | 155             | 37              | 303             |
| Big data                       | 40 (36.0)        | 57 (36.8)       | 12 (32.4)       | 109 (36.0)      |
| Medical records                | 28 (25.2)        | 38 (24.5)       | 7 (18.9)        | 73 (24.1)       |
| Medical records & questionnaire| 20 (18.0)        | 25 (16.1)       | 4 (10.8)        | 49 (16.2)       |
| Questionnaire                  | 14 (12.6)        | 17 (11.0)       | 3 (8.1)         | 34 (11.2)       |
| Study results                  | 3 (2.7)          | 9 (5.8)         | 7 (18.9)        | 19 (6.3)        |
| Interview                      | 2 (1.8)          | 5 (3.2)         | 1 (2.7)         | 8 (2.6)         |
| Questionnaire & interview      | 1 (0.9)          | 1 (0.6)         | 0               | 2 (0.7)         |
| Medical record & interview     | 0                | 1 (0.6)         | 1 (2.7)         | 2 (0.7)         |
| Questionnaire & direct measure | 1 (0.9)          | 1 (0.6)         | 0               | 2 (0.7)         |
| Direct measurement             | 0                | 1 (0.6)         | 0               | 1 (0.3)         |
| Internet                       | 0                | 0               | 1 (2.7)         | 1 (0.3)         |
| Study results & interview      | 0                | 0               | 1 (2.7)         | 1 (0.3)         |
| Test results                   | 1 (0.9)          | 0               | 0               | 1 (0.3)         |
| Video                          | 1 (0.9)          | 0               | 0               | 1 (0.3)         |

Values are presented as number or number (%). COVID-19, coronavirus disease 2019.
the journal set in 2011 when the language used was changed from Ko-
orean to English with the goal of recruiting papers from outside of Korea
and propagating the information to all over the world.

In the current study, 2018 to 2019, 2020 to 2022, and 2023 were de-
dined as before, during, and after the pandemic, respectively. The cri-
tera were set as such because Korea’s first case of COVID-19 was re-
corded on January 20, 2020, and the face mask mandate for most in-
door public places was lifted on January 30, 2023. These dates are in
line with the official COVID-19 pandemic period (started on March 11,
2020 and ended on May 5, 2023) declared by the World Health Organiz-
ation. Considering that the publication process typically spans several
months from idea planning to writing and eventual publication, the
impact of COVID-19 on research trends may manifest gradually. Nev-
evertheless, we believe that the definitions of before, during and after the
COVID-19 pandemic are sufficient for analyzing the general directions
of the studies and influence of the pandemic.

Comparing our results of study subjects, research methods, modes
of data collection before, during, and after the COVID-19 pandemic
revealed several interesting trends. For study subjects, “diseases &
symptoms” showed a noticeable decrease by nearly 10%. By contrast,
“principles of family medicine” increased by more than 6% during and
after the pandemic compared to before the pandemic. Moreover, no
articles belonging to the major category of “others” was published be-
fore the pandemic, whereas a couple were issued during and after the
pandemic. As seen from this trend, the COVID-19 pandemic has
raised people’s interest in the broader fields of public health systems,
primary care, and individuals’ health-related quality of life, whereas
research before the pandemic focused more on the disease itself. Our
results regarding the study topics reveal some discrepancies from pre-
vious reports on the impact of the COVID-19 pandemic on health re-
search.\textsuperscript{9,10} These studies established that major research operations
unrelated to COVID-19 have been diminished or suspended and
claimed that health research other than COVID-19 has become a ca-
usality of the pandemic. In addition, in some countries like England, a
substantial number of clinical academics had to return to full-time
clinical duties due to the lack of physicians in the clinical field as the
number of COVID-19 patients increased.\textsuperscript{11} Accordingly, the environ-
ment was unsupportive of research that was not related to COVID-19
during the pandemic period. However, our results indicate consistent
publication of health studies other than COVID-19 and the introd-
cution of even broader research subjects into the journal during the pan-
demic period. The total citations of the journal have also displayed a
consistent upward trend, from 180 in 2018 to 190 in 2019, and further
to 256, 314, and 357 in 2020, 2021, and 2022, respectively. This consis-
tent rise in citation during the COVID-19 era suggests that the journal
has effectively served as a valuable reference across a broad spectrum
of medical research, even amidst these challenging times.

Regarding study methods, the portion of cross-sectional study de-
creased by 4% during the pandemic from that of before and by an ad-
ditional 9% reduction after the pandemic. However, prospective and
retrospective cohort studies were concentrated during the pandemic
period. Whether this phenomenon is a manifestation of the COVID-19
pandemic or a coincidental finding is not clear, but the pandemic pe-
riod is assumed to have reduced the proportion of cross-sectional
study and encouraged a more diverse range of study methods. In par-
cular, the proportion of randomized controlled trials has doubled
during the pandemic period compared to that of before the pandemic.
This result differs from Bian and Lin,\textsuperscript{12} who observed a decrease in
non-COVID-19 randomized controlled trials during the pandemic. We
assume that the increase in publications of randomized controlled tri-
als may be due to the fact that those that have been processed since
before the pandemic were forced to end as the pandemic began due to
the difficulty of patient accessibility to medical services and the re-
duced intention of patients to actively participate in medical research.
Thus, such studies may have been analyzed, written, and published
during the pandemic period. Weiner et al.\textsuperscript{13} analyzed the impact of the
pandemic on clinical trial research. Their findings established that
many clinical trials have been paused, and enrollment into new stud-
ies has also been suspended due to the risk of spreading COVID-19. In
addition, the number of articles using systemic review & meta-analysis
and literature review study methods increased distinctly during and
after the pandemic compared to those before the pandemic. These
study methods do not need any face-to-face encounters with people
and are conducted with results that have already been published.
Therefore, we believe that researchers readily preferred these types of
study methods after the pandemic began. Similar preference was ex-
hibited for data collection methods in that those requiring direct or in-
direct interaction with people and medical services (e.g., medical re-
cords, medical records & questionnaire, and questionnaire) decreased
and un-tact methods (e.g., big data and study results) became more
common as the pandemic continued.

A total of 24 experimental study articles were published in KJFM be-
tween 2018 and 2023. Among these, 22 articles (92%) were published
by authors of international affiliations and only 2 (8%) by Korean au-
thors; one of these two was a randomized controlled trial and the other
was a before-and-after study. Among the 167 study methods used by
Korean authors, experimental study accounted for 1% (two articles)
and approximately 74% (124 articles) were either cross-sectional or
cross-sectional with case-control study. By contrast, among the 76
study methods used by authors of international affiliations, experimen-
tal studies accounted for 29% (22 articles) and cross-sectional and
cross-sectional with case-control study for 34% (26 articles). Multiple
factors could contribute to this gap in preference for study methods
between Korean authors and authors of international affiliations. One
possible contributing factor is that family medicine residency trainees
in Korea must meet the qualification criteria by either submitting an
article to the KJFM or KJFP or publishing in other journal to achieve
family medicine board certification. The results by Cho et al.\textsuperscript{8} sug-
ggest that many Korean family medicine residency trainees publish their
articles with KJFP, and we believe that this propensity also applies to
KJFM. The situation and environmental support for residency trainees
is unfavorable for performing an experimental study, which takes a
longer period of time and more resources. Thus, many articles by residency trainees are observational studies and a large proportion may have been published in KJFM, thereby contributing to the large proportion of such studies among Korean authors.

Sim et al.3 analyzed 1,218 articles published in JKAFM from November 1980 to December 1996 and found that the proportion of original article, review article, case reports, and others were 49.5%, 38.3%, 2.1%, and 10.2%, respectively. In comparison, our data reveal an increase in the proportions of original article and case report and reduced numbers of review articles in the KJFM. For the study subjects, articles in JKAFM in the 1980s and the 1990s focused more on “principles of family medicine,” which accounts for 34.9% of the total subjects. By contrast, in KJFM over the past 6 years a wider variety of subjects has been introduced and topics of “diseases & symptoms” and “disease prevention & health promotion” have been more commonly discussed than “principles of family medicine.” A comparison of the author information indicates that more than half of the articles in JKAFM were by authors affiliated to the department of family medicine only and no international participation; by contrast, approximately 60% of the articles in KJFM involved authors of a variety of affiliations other than family medicine, and 40% involved authors of international affiliations. Lastly, in JKAFM, descriptive study was the most commonly used research method and nearly 80% of the data were accumulated either through medical records or questionnaires. In the KJFM, the most commonly applied research method was cross-sectional study and the majority of the data were collected from big data and medical records. By comparing our results with those of Sim et al.,31 our up-to-date scrutinization of the journal reveals a considerable change in research trends on article types, author affiliations and their nationalities, study topics, research methods, and modes of data collection over time.

This study has several limitations. First, analyses of hundreds of articles were conducted manually. Although the data were double-checked, minor errors may be present in the data collection, interpretation, and management processes. In addition, the study methods and modes of data collection used in the articles were not always mentioned in the manuscript, in which case, we had to find and categorize the best fit or exclude articles in ambiguous cases. Finally, our study only analyzed articles published in the last 6 years. Since the journal was first launched 14 years ago with the title of KJFM, and the text-language was changed to English only 12 years ago, a more extensive analysis including past articles would provide more information about how the journal has changed over a longer period of time. Despite these limitations, our study provides valuable information on the latest features of KJFM and how the journal’s trends have changed over time before, during, and after the COVID-19 pandemic. We hope our study can provide data for the future direction of KJFM and contribute to the further development of the journal.

CONFLICT OF INTEREST
No potential conflict of interest relevant to this article was reported.

ORCID
Byung Ho Kong: https://orcid.org/0009-0009-2208-689X
Jae Kyung Choi: https://orcid.org/0000-0002-0875-7505
San-Sung Lee: https://orcid.org/0009-0006-3320-9515
Ji Young Kim: https://orcid.org/0009-0004-1256-2016

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