The aim of our work was to analyze the bibliographical characteristics of 9 North Korean medical journals and articles. All journals show only ten pieces of information, such as publication dates and table of contents, and do not provide submission guidelines and journal policy. Most of the journals were published four times a year. Editorials often share government policy. Research articles are very short and compressed. The journals often publish articles on oriental medicine and medical information useful to the public. In conclusion, the journals were published in their own unique style and format, which are far from the global standard.

**Keywords:** North Korea; Medical Research; Medical Journals

At the end of World War II, Korea was divided into South and North as a result of political conflicts in the age of the Cold War. The separation of ideologies, language, politics, economy, and healthcare has brought about disparity between the two Koreas. The ideological differences of South and North Korea have had such an impact on the medical field that North Korea founded Juche-Medicine; Juche-Medicine is founded upon “Juche,” usually translated as “self-reliance,” involving an independent health policy and medicine that reflects the philosophical views and ideas unique to North Korea.¹,²

However, North Korea’s unique medicine was not well known to the outside world in terms of form and content. It is only a glimpse of the reality through the research on North Korean refugees.³,⁴ Fortunately, there is a keyhole to look into North Korean medicine and medical research. By the middle of 2016, nine North Korean medical journals were available in South Korea. In 2018, ten journals are available, and one added is ‘Koryo ūihak.’ However, it is not clear whether there are other North Korean medical journals in addition to the ten journals available in South Korea. Although a few researchers recently studied some North Korean
The aim of our work was to analyze the bibliographical characteristics of the North Korean medical journals and articles. We collected nine North Korean medical journals published between 2006 and 2015 through the Ministry of Unification of South Korea’s Information Center on North Korea by the end of February 2016 (Table 1). After reviewing the articles, the authors found the characteristics of the medical journals of North Korea and generalized the structure and characteristics of the articles.

There were ten types of information that can be obtained through the cover of the journal: title, table of contents, publisher, printing factory, office address, country of publication, publication date, print date, volume, and International Standard Serial Number. Inside all journals, information such as submission guidelines, types of articles, editorial and peer review process, manuscript format, journal policy and subscription could not be found. All journals were published through the Korea Science and Encyclopedia Publishing House except for ‘Ŭihak’ (Medical science); the publication frequency were identical at four per year. In terms of content, four of the nine journals deal with general medicine, and five deal with specific areas of medicine such as ‘Naekwa’ and ‘Oekwa.’ Most of the journals often publish articles on oriental medicine and medical information useful to the public.

There are generally five types of articles that the journals publish; editorials, research articles, reviews, case studies, and short notes. It is common for the article to have a very short, compressed form, such as a long abstract. The editorials did not function as analyzing current issues, heading opinions nor giving editorial notes; rather, they seem to function as tools of propaganda used to further the political stance and rule that the publication press had. The content of the editorials reflects government policies and the volitions of the Supreme Leader, suggesting the direction that North Korean researchers should take. Some journals’ research articles provided English summaries.

Most of articles had identical organizational structures as follows (Fig. 1). First, on average, the bulk of the publications did not exceed two pages, and the use of abstracts was not common. Second, descriptive language was in Korean; use of English was very limited and was mainly used for units of measurement and modifiers. Third, the number of authors in medical journals to analyze specific medical topics, there have been few studies that analyzed the characteristics of all available North Korean medical journals.5,7

Table 1. Medical journals of North Korea available in South Korea

| Title (English title) | Publisher | Publication start year | Frequency | ISSN | NLM unique ID | Language | Subjects |
|-----------------------|-----------|------------------------|-----------|------|---------------|----------|----------|
| Naekwa (Internal medicine) | KSEPH | 1964 | Quarterly | 0547-1060 | 101278406 | Korean | Internal medicine |
| Oekwa (Surgery) | | 1965 | | 0473-8020 | 101278407 | | General surgery |
| Kich o uihak (Basic medicine) | | 1969 | | 1728-0338 | 101215007 | | Medical science |
| Chosŏn uihak (Korean medicine) | | 1954 | | 1680-8029 | 16210070R | | Medical science |
| Yebang uihak (Preventive medicine) | | 1966 | | 1683-9943 | 101270212 | | Medical science |
| Soa, sanbuinkwa (Pediatrics, obstetrics and gynecology) | | 1978 | | 0583-6697 | 101281666 | | Pediatrics, obstetrics, and gynecology |
| Kugang, ankw, ibihnhukwa’ (Dentistry, ophthalmology, otorhinolaryngology) | | 2004* | | 2219-0694* | | Oral, ophthalmology, and otorhinolaryngology |
| Chosŏn yakhak (Korean pharmacy) | CSTIA | 1957 | | 1683-9951 | 101215002 | | Pharmacy |
| Ŭihak (Medical science) | CSTIA | 1960* | 6 times a year | | | | Medical science |

ISSN = international standard serial number, NLM = U.S. National Library of Medicine, KSEPH = Korea Science & Encyclopedia Publishing House, CSTIA = Central Information Agency for Science and Technology.

*Use of the Information Center on North Korea’ data when North Korean journals’ bibliographical matters cannot be found on U.S. National Library of Medicine.
the article was generally from one to three. Fourth, some of the articles had a brief summary in English at the end. Fifth, tables, graphs, and images were partially illustrated by hand, but even those were rarely seen. Sixth, most articles presented references at the end of the article, but the number of references rarely exceeded six. Furthermore, there was no in-text citation. References included publications mainly from North Korea, Japan, Russia, China, and the United States, but the bibliographical information was written in the language of the publication press. Although some articles of *The New England Journal of Medicine* (NEJM) or *JAMA* were quoted when referring to English articles, none of the cited articles were up-to-date. Lastly, apart from ‘Ŭihak,’ there were no keywords provided.

Miscellaneous features are as follows. Articles usually began by citing the Supreme Leaders’ instructions, reflecting their ideological views and ideas unique to North Korea. Some statistics such as percent and $P$-values were observed but no specific statistical methods were presented. There were no epidemiological indexes such as mortality and the prevalence of disease. Furthermore, publication bias could be widely observed, as there were no negative cases or results. In addition, the authors could not find any other ethical code including publication ethics regulations.

Since these findings mentioned above are from partial observation of North Korean medicine, they should be interpreted with caution and require further study.

In conclusion, all of the North Korean medical journals were published in their own unique style and format, which are far from the international standard. The purpose of their publications looks for domestic distribution. It is necessary to help their publications keep international standards of editing and publishing.
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REFERENCES

1. Jung M. Bibliometric investigation on preventive medicine in North Korea: a coauthor and keyword network analysis. Health Care Manag (Frederick) 2013;32(3):253-9. PUBMED
2. Yi SG, Moon OR, Lee SJ, Kim JC, Yong W, Lin PS. The state of the art of preventive medicine in North Korea with reference to the content analysis of a medical textbook. Korean J Prev Med 2000;33(3):373-82. CROSSREF
3. Kim SJ, Park YS, Lee H, Park SM. Current situation of psychiatry in North Korean: from the viewpoint of North Korean medical doctors. Korean J Psychosomatic Med 2012;20(1):32-9. CROSSREF
4. Lee YH, Lee WJ, Kim YI, Cho MJ, Kim JH, Lee YI, et al. North Korean refugee health in South Korea (NORNS) study: study design and methods. BMC Public Health 2012;12(1):172. PUBMED | CROSSREF
5. Kim OJ. An analysis of a North Korean Medical Journal: In-Min-Bo-Gun (People's Health) in 1950s. Uisahak 2002;11(2):165-85. PUBMED
6. Kim SG, Kim KJ, Ha S, Kim YH. A peek into the Galapagos of the medical research field. Lancet 2016;388(10063):2989-90. PUBMED | CROSSREF
7. Park DH, Choi MH, Lim AY, Shin HY. An analysis of infectious disease research trends in medical journals from North Korea. J Prev Med Public Health 2018;51(2):109-20. PUBMED | CROSSREF

https://jkms.org https://doi.org/10.3346/jkms.2018.33.e185