

Development of Medical Journal Publication in Korea

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= Abstract =

In the first part of the present paper, medical journals which had been or are published in Korea were examined by period in order to show the development of medical journal publication in Korea and to capture the characteristics that might have influenced medical journals currently published in Korea. In the second part, the characteristics of the scholarly medical journals currently published in Korea, based on 125 journals listed in the Appendix, are analyzed and discussed.

Journal Publication Before and During the Japanese Occupation Period

(before 1945)

The *Hanguk Uihakhoe Hoeji* was published twice in May and December of 1908, by the Hanguk Uihakhoe (the Korean Medical Society)¹⁾. This is considered to be the first medical journal ever published in the Korean peninsula. Altogether, 14 journals had existed before or during the Japanese occupation period (Table 1). Most of them had survived for a very short time period, because of the precarious social and political changes, and of the financial problems. Even those long-lasting journals ceased

publication in early 1940s when the whole nation was driven by the World War II.

Of the 14 journals, two journals were published by commercial publishers, eight by medical academic institutions, and four by medical associations. All of them were scholarly journals which published original research reports. The two commercial journals, the *Mansunji Uikye* and the *Mansunji Uisa*, were scholarly, but oriented toward the general interest of those in the area of medicine and pharmacy. The journals were distributed free to them. Because the journals were monthly magazines that were very rare at that time, they were very popular and considered to be very useful²⁾.

Most of the journals at that time were general in scope. However, there had been two specialty journals which were published by so-called "Kyoshils" of the Department of Medicine at Kyungsung Imperial College. The

1) Jonghee Jun, "Uihak Dosae Mit Uihak Japji (- 1983) [Korean Medical Books and Journals Till 1983]", in *Hanguk Hyunade Uihaksa [History of Modern Medicine in Korea]* (Seoul: Korean Medical Association, 1988), p. 271; Ho-bae Kim, "Uihak Japjiae Kwanhan Youngu: a Study of the Korean Medical Journal [s]" *Bulletin of the Korean Medical Association* 8, no. 1-2 (December 1981): 3.

2) Jongwhee Jun, "Korean Medical Books and Journals Till 1983," p. 277.

Table 1. Medical Journals Published in Korea Before the Korean War

| Journal | Language | Frequency | Publication years | Publisher |
|---|------------------------------------|-----------|------------------------------------|---|
| Before 1910 | | | | |
| Hanguk Uihakhoe Hoeji | Japanese? | 2/yr | 1908 (no. 1-2) | Hankuk Uihakhoe (Korean Medical Society) |
| Uihakhoe Hoebo | Japanese | 2/yr | 1909 (no. 1-2) | Kyerim Uihakhoe (Kyerim Doctors' Society) |
| Between 1910 and 1945 (period under the Japanese occupation) | | | | |
| Chosun Uihakhoe Japji | Japanese | 3/yr, M | 1911-43 (v. 1-33) | Chosun Uihakhoe (Chosun Medical Association) |
| Mitteilungen aus der Medizinischen Akademie zu Keijo | German & English | A, Q | 1918-27 (v. 1-10) | Kyungsung Medical Professional School |
| Mansunji Uikye | Japanese | M | 1921-42 (No. 1-247?) | Mansunji Uikye (commercial publisher) |
| Acta Medicinalia in Keijo (Kyungsung Uihak Kiyoe) | German & English | Q | 1928-29 (v. 11-12) | Univeristas Imperialis in Keijo Japonica (replaced Mitteilun- gen...) |
| The Keijo Journal of Medicine | German & English | Q | 1930-43 | Kyungsung Imperial College Department of Medicine |
| Chosun Uibo ^a (Korean Medical Journals) | Korean | Q | 1930-36 | Chosun Uisa Hyophoe (Korean Medical Association) |
| Kyungsung Uihak Junmun Hakkyo Kiyoe | Japanese & Foreign ^b | M | 1931-43 (v. 1-13) | Kyungsung Medical Professional School |
| Journal of the Severance Union Medical College | English | A | 1933-35 (v. 1-3) | Severance Union Medical Prof. School |
| Imsang Naekwahak | Japanese | BM | 1933-43 (v. 1-13) | Kyungsung Imperial College, Dept. of Med., Clinical Internal Medicine Section |
| Sungdae Soakwa Japji | Japanese | 3-4/yr | 1933-42(?) (v. 1-3, 30 issues) | Kyungsung Imperial College, Dept. of Med., Pediatrics Section |
| Taegu Uihak Junmun Hakkyo Japji | Japanese? | SA | 1939-43 (v. 1-6?) | Taegu Medical Professional School |
| Mansunji Uisa | Japanese | M | 1941-44(?) | Mansunji Uisasa (commercial publisher) |
| Between 1946 and 1949 | | | | |
| Chosun Uisa Shinbo | Korean | M | 1946 (no. 1-2) | American Military Government Department of Academic Affairs |
| Chosun Uihak Shinbo | Korean | M | 1946-47? (no. 1-3?) | Chosun Uihak Shinbosa (commercial publisher) |
| Chosun Uibo ^a | Korean | M | 1946-49 (v. 1-3, 15 issues) | Chosun Uibosa (commercial publisher) |
| Junbuk Uibo | Korean | A | 1948-49 (v. 1-2) | Cheonbuk Uisahoe (Cheonbuk Doctors' Association) |
| Chosun Uihak Hyophoe Hoebo (Journal of the KMA) | Korean | A | 1948. 5. - current ^c | Korean Medical Association |

Table 1. Continued

| | | | | |
|--|--------|---|----------------------------------|--|
| Imsang Uihak | Korean | M | 1949 (no. 1-7) | Imsang Uihaksa (commercial publisher) |
| Taehan Naekwa Hakhoe Japji (Korean Journal of Internal Medicine) | Korean | A | 1949.10- current ^c | Korean Society of Internal Medicine |

COMPILED FROM: Jongwhae Jun, "Uihak Dosae Mit Uihak Japji(-1983) [Korean Medical Books and Journals Till 1983]", "in *Hanguk Hyundae-Uihaksa* [*History of Modern Medicine in Korea*] (Seoul: Korean medical Association, 1988), pp. 270-81.

^a Two different titles with the same name.

^b Mostly Japanese articles. Also had articles in English, German and Esperanto.

^c The Korean war interrupted the publication of the journal. Currently the journal is published monthly.

Imsang Naekwahak was published by Internal Medicine kyoshil headed by a Japanese professor, Seishiro Iwai. The *Sungdae Soakwa Japji* was published by Pediatrics kyoshil headed by Hodaro Chujibashi³⁾. The contributors to the journals were current and old members (i.e., alumni) of the specialty laboratories. These journals had been published for longer than ten years. The fact that the two journals outlived the average journals of that time indicates the capacity and the power of these labs led by a Japanese professor respectively. The pediatrics journal included a section which reports news on the Kyung-sung Branch of the Japan Pediatrics Society⁴⁾. From the fact that there had not been medical specialists societies in Korea in this period, one can easily conclude that the manpower and the personal relationships built around a medical specialty lab functioned practically as a medical society itself inside Korea.

Strictly speaking, most of the journals published in Korea before 1945 were not Korean journals, because the publishers of these jour-

nals were Japanese organizations in which member are mostly Japanese. Members of the Hanguk Uihakhoe (Korean Medical Society) were mainly Japanese: there were six Koreans among 63 members⁵⁾. The society published in 1908 two issues of the *Hanguk Uihakhoe Hoeji*, the first medical journal mentioned earlier. Kyerim Uihakhoe (Kyerim Doctors' society) published two issues of *Uihakhoe Hoebo* in 1909 and it was the society of Japanese doctors. The Chosun Uihakhoe (the Chosun Medical Association, the successor of the Hanguk Uihakhoe) published the *Chosun Uihakhoe Japji* for 33 years beginning in 1911. More than 160 among 171 members who originally participated in the formation of the association in 1911 were Japanese⁶⁾. The languages used in these journals was Japanese, unless it was German or English. It was not because the Japanese language was a scientific language of that time, but because the journals were published by Japanese organizations. Also, the Japanese language was forced as the official language of the nation.

There had been only two de facto Korean

3) Jongwhae Jun, "Korean Medical Books and Journals Till 1983m", p. 276.

4) Jongwhae Jun, "Korean Medical Books and Journals Till 1983", p. 277.

5) Ho-bae Kim "A Study of the Korean Medical Journal [s]", p. 2-3.

6) Jongwhae Jun, "Korean Medical Books and Journals Till 1983", p. 275.

journals--*The Journal of the Severance Union Medical College* and the *Chosun Uibo*. *The Journal of the Severance Union Medical College* was published annually for three years (1933~1935) in English by the Severance Medical Professional school. Students of the Severance had been entirely Koreans⁷⁾, and at least a half of faculty members was Koreans. (The other half of faculty was American or Canadian missionary doctors.) Thus, a majority of contributors to the Severance journal had been Koreans, whereas contributors of journals published by other medical schools with predominant Japanese student and faculty population had been mainly Japanese. Another *de facto* Korean journal, the *Chosun Uibo* (*The Korean Medical Journal*) was published quarterly from 1930 to 1936 as the official journal of the Chosun Uisa Hyophoe (the Korean Medical Association). The association was the one and only "Koreans-only" medical association existed during the Japanese period. It was created in 1929 and lasted till 1937 when it was disintegrated by the Japanese authorities. At that time, it had 450 members⁸⁾. The journal was definitely published in the Korean-language.

The two Korean journals were published for a brief time. Therefore, the role of other journals, especially the long-lasting and more-frequently published journals such as *Chosun Uihakhoe Japji*, should not be underestimated for their merit in providing places for Korean researchers to publish their papers.

7) It is known that there had been only a couple of Japanese students ever enrolled in the school by 1945. Youbok Lee, "Uikwa Daehak Kyoyouk (- 1986) [Medical College Education Till 1986], "in *Hanguk-Hyundae-Uihaksa* [*History of Modern Medicine in Korea*] (Seoul: Korean Medical Association, 1988), p. 52-53.

8) Ho-bae Kim "A Study of the Korean Medical Journal [s]", p. 3.

Journal Publication Before the Korean War (1946~1949)

Seven journals began publication between 1946 and 1949, the period following the Japanese occupation and preceding the Korean War (Table 1). Due to the unstable social and political situations, and the financial problems, several journals started in this period ceased publication in one or two years. Worst of all, the Korean War started in 1950 interrupted everything.

Of the seven journals existed in this period, one journal, the *Chosun Uisa Shinbo*, was published by the American Military Government for a year. Two journals were published by doctors' associations, one was by medical specialists society, and three were by commercial publishers.

An interesting thing to be noted for the medical journal publication during this tumult period is that medical schools published not a single journal title. It is not coincidental that medical colleges restructured by the new educational system were undergoing a rough time. Many faculty positions were not yet filled. An environment to concentrate on research was not yet set up. That is, the basis for the publication of journal was lacking from medical colleges.

Notwithstanding the slow progress in the settlement of medical colleges, the formation of medical specialists societies boomed in this period. On September 10 of 1945, right after the Japanese occupation of Korea ended, the Chosun Shinkyung Jungshinkwa Hakhoe (the Chosun Neuro-Psychiatry Society) was formed. This was the first medical specialists society founded in Korea. Four more medical societies were organized in the same year. They are the Taehan (i.e., Korean) Pediatrics Association, the Taehan

Society of Dermatology and Urology, the Taehan Radiologist Society, and the Chosun (currently, the Taehan) society of Internal Medicine. In 1946, three academic societies specifically in the area of basic medical research, pathology, physiology and microbiology followed. In 1947, six more medical societies (surgery, gynecology and obstetrics, ophthalmology, otolaryngology, pharmacology, and anatomy), were established. Thereby, almost all of the major medical specialists societies of that time, were founded in these three years.

Today, one of the major activities of these medical specialists organizations is the publication of the official journals, that is scholarly in nature. Yet, at that time, such organizations were not mature enough to publish scholarly journals. Research activities of that time must have been very insignificant throughout the whole medical field. Only one medical society was able to begin publication of a scholarly journal before 1950. The *Taehan Naekwa Hakhoe Japji* (the *Korean Journal of Internal Medicine*) was started by the Chosun Society of Internal medicine in October, 1949. Therefore, it was the first medical specialists society journal published in Korea, and the only such journal existed before the Korean War.

The Korean Medical Association was founded in 1947 as the central doctors' association. The association began publication of the official journal, the *Chosun Uihak Hyophoe Hoebo* (The *Journal of the Korean Medical Association*), one year later in May, 1948. This is the first Korean medical journal in true sense. The publication of the journal was interrupted during the Korean War, and resumed in 1958. Currently the journal is published monthly as the *Taehan Uihak Hyophoeji* with the same English title.

The Cheonbuk Doctors' Association published the *Cheonbuk Uibo* once each in 1948 and in 1949.

It was very surprising that a local doctors association was able to publish a scholarly journal at a very infertile time in a barren environment⁹⁾. Pitifully, the journal ceased publication during the Korean War. It should be recorded as the first journal to be published by a local doctors' association.

Three commercial journals, the *Chosun Uihak Shinbo*, the *Chosun Uibo*, and the *Imsang Uihak*, were general in scope and scholarly. They covered not only every field of medicine, but also every aspects of medicine such as clinical cases, original reports of the basic medical research, medical policy and matters on running clinics. Jun wrote, "this kind of monthly journals was needed in the place where specialty journals did not exist"¹⁰⁾. The publishers of these commercial journals were of very small size. The financial problems forced them to stop publication of journals within a year or so.

Journal Publication During the Korean War (1950~1953)

The Korean War totally disabled the regular research and publication activities which were barely budding out. None of the journals which existed before the Korean War, published a single issue during the wartime. Instead, a military medical journal was published by the Army. It began as the *Junsang Chamgo Jaryo* (literally, *Reference Materials for Treatments of War Wounds*) in May 1951. After two monthly issues, the title was changed into the *Uisung* (the *ROK*

9) Even now, there are only two journals published by local doctor' associations. They are the *Pusan Soakwa* (the *Journal of the Pusan Association of Pediatrics*, 1988-) and the *Pusan Oekwa* (the *Journal of the Pusan Surgical Society*, 1985-).

10) Jongwhee Jun, "Korean Medical Books and Journals Till 1983", p. 349.

Army Medical Journal). Six issues were irregularly published till 1953. In 1954, after the war was over, the journal was superseded by the

Youkgun Uimu Jangkyodan Japji (Medicine Journal of the ROK Army).

Aside from the fact that the military medical

Table 2. Military Medical Journals Published in Korea

| Journal | Language | Frequency | Publication years | Publisher |
|--|----------|-----------|-------------------------|---|
| Junsang Chamgo Jaryo | Korean | M | 1951. 5-6 (no. 1-2) | Army |
| Uisung (ROK Army Medical Journal) | Korean | Ir | 1951. 7-53 (no. 3-8) | Army (continued the Junsang Chamgo Jaryo) |
| Youkgun Uimu Jangkyodan Japji (Medical journal of the ROK Army) | Korean | 2-5/yr | 1954-59 (v. 1-7) | Army (superseded the Uisung) |
| Kunjin Uihak (ROK Army Medical Journal) | Korean | Ir | 1960-68 (v. 8-13) | Army (continued the Youkgun Uimu...) |
| Uimu | Korean | 3/yr | 1969 (v. 14) | Army (continued the Kunjin Uihak, merged into the J of the KMMA) |
| Uihak (journal of MFSS) | Korean | M | 1953-54 (v. 1-2) | Army |
| Haegun Uimudan Japji (journal of the ROK Naval Medical Corp) | Korean | A | 1955-73 (v. 1-18) | Navy (merged into the J of the KMMA) |
| Haeyang Uihak (Korean Journal of Ocean & Underwater Medicine) | Korean | A | 1977-86? | Navy |
| Hanggong Uihak* (Journal of Aerospace Medicine) | Korean | SA | 1953- current | Air Force |
| Taehan Kunjin Uihak (Armed Forces Medical Journal of the ROK) | Korean | A | 1961-65 | Korean military Medical Association |
| Taehan Kunjin Uihak Haksulji (Journal of the Korean Military Medical Association) | Korean | A | 1974- current | Korean Military Medical Association |

COMPILED FROM: Jongwhee Jun, "Uihak Dosae Mit Uihak Japji (~1983) [Korean Medical Books and Journals Till 1983]", in *Hanguk Hyundae Uihaksa [History of Modern Medicine in Korea]* (Seoul: Korean Medical Association, 1988), pp. 282-86.

*Jongwhee Jun reported in the above source that the *Hanggong Uihak* ceased publication in 1975, in order to be merged into the *Journal of the Korean military Medical Association*. However, the journals is currently published under the same title. Its previous English title is the *ROK Air Force Journal of Aviation Medicine*.

journal was the only journal existed during the Korean War, the publication of the journal was significant for several reasons. Since many medical doctors served army as medical officers, the contributors of the military medical journals were those who were actively involved in the publication of research journal existed before the War. In addition, civilians (such as medical college professors) was allowed to contribute their papers to the military journal¹¹⁾. Naturally, the journal covered every field of medicine, not just military medicine. It also invoked the publication of several other military medical journals (Table 2). In the mid-1950s, the Army, the Navy and the Air Force were independently publishing journals with distinctive characteristics. Jun wrote that it was a golden period of military medical journal publication in Korea, and that its contribution to the development of Korean medicine should be highly recognized¹²⁾. Considering the fact that the revival and the new publication of civilian journals were made only in the late 1950s (discussed in the next section), the space provided by the military journals, during and immediately after the Korean War, must have been an unique place to report research works produced in this period. The journals published by three military organizations were merged in 1974 to become the *Taehan Kunjin Uihak Haksulji* (The Journal of the Korean Military Medical Association), and it is currently published once a year.

Journal Publication After the Korean War (until 1960)

It took a while before journal publication to

11) Jongwhee Jun, "Korean Medical and Journals Till 1983", p. 283.

12) Jongwhee Jun, "Korean Medical Books and journals Till 1983", p. 283.

get under way after the Korean War was over. A few journals began publication immediately after the war an many of them have disappeared after a few issues. In March 1954, Seoul National University (SNU) published the *Journal of Seoul National University: Natural Science*. Papers produced by the medical faculty of the SNU were published in the journal. The journal was not a medical journal in the strict sense. The College of Medicine at the SNU tried to publish its own medical journal aside from the university journal. The *Uidae Hakbo* (The Seoul Journal of Medicine) was published once in 1955 and died immediately. Several commercial monthly magazines started at taht period also existed for a very brief time. They were, the *Uihak* (1954, two issues), the *Shinyagkye* (1956~1957), the *Jonghap Uihak* (1956~1970), and the *Hanguk Uihak* (1958~1961)¹³⁾. Again in the period when no other medical journals existed¹⁴⁾, these commercial magazines must have been very handy to make up for the insufficient journal spaces that were not easy to be quickly created. As many scholarly journals have been published over the years by medical specialists societies, the roles of these commercial journals have been changed and their values must have diminished. Currently in 1992, two commercial journals--the *Choeshin Uihak* (the *New Medical Journal*, Started in 1958) and the *Jungang Uihak* (the *Korean Central Journal of Medicine*, started in 1961)--are published in Korea.

In August, 1954, the *Kyulhaek* (the *Tuberculosis*) was published by the Korean Tuberculosis Association¹⁵⁾. This was the first medical journal

13) Jongwhee Jun, "Korean Medical Books and Journals Till 1983", p. 350-56.

14) It was comparable to the desolate period before the Korean War following the Japanese period.

15) From 1962, the title is changed to the *Kylhaekgwa Hoheupgi Jilwhan* (the *Tuberculosis and Respiratory Diseases*).

**Table 3. Number of Scholarly Medical Journals Started in Each Year
(Limited to Those Journals Currently Published in Korea)**

| Pub. begin year | No. of journals | Pub. begin year | No. of journals |
|--------------------|-----------------|-----------------|------------------------|
| Before 1950 | | In 1970s | |
| 1948 | 1 | 1970 | 2 |
| 1949 | 1 | 1971 | 2 |
| | <hr/> total 2 | 1972 | 2 |
| In 1950s | | 1973 | 1 |
| 1953 | 1 | 1974 | 5 |
| 1954 | 1 | 1976 | 1 |
| 1957 | 1 | 1977 | 8 |
| 1958 | 7 | 1978 | 3 |
| 1959 | 2 | 1979 | 2 |
| | <hr/> total 12 | | <hr/> total 26 |
| In 1960s | | In 1980s | |
| 1960 | 5 | 1980 | 4 |
| 1961 | 2 | 1981 | 6 |
| 1962 | 2 | 1982 | 4 |
| 1964 | 7 | 1983 | 5 |
| 1965 | 1 | 1984 | 3 |
| 1966 | 2 | 1985 | 10 |
| 1967 | 3 | 1986 | 5 |
| 1968 | 7 | 1987 | 2 |
| 1969 | 3 | 1988 | 4 |
| | <hr/> total 32 | 1989 | 6 |
| | | | <hr/> total 49 |
| | | in 1990s | |
| | | 1990 | 4 |
| | | | <hr/> total 4 |
| | | | Grand total 125 |

started after the Korean War which is still alive. In 1957, the *Sungshin Taehak Uihakbu Nonmunjip* (i.e., the *journal of the Department of Medicine at Sungshin College*¹⁶⁾) was begun publication, being the first journal amongst the cur-

rently-surviving medical college journals.

The year of 1958, five years after the War was over, was a turning point (Table 3). In this year, not only the two journals which stopped publication during the War--the *Journal of the Korean Medical Association* and the *Korean Journal of Internal Medicine*--were revived, but also several other new journals began publication.

16) Currently, the College of Medicine at Catholic University.

Of those medical journals currently published in Korea (Appendix), seven journals began publication in 1958. They are the *Kyungpook University Medical Journal*, the *Choesin Uihak* (the *New Medical Journal*, a commercial journal), and five medical specialists societies journals (Microbiology, Obstetrics and Gynecology, Ophthalmology, Otolaryngology, and Pediatrics).

It is true that quite few journals had come to life and ceased publication over the last 40 years. Unfortunately, the detailed information on the rise and the fall of ever-changing medical journal publication is not available. However, unlike medical journals of the earlier times, a majority of the journals which began publication after the Korea War (especially after 1958) is in good standing, although the titles might have changed several times over the courses of time. Thus, when a quantification is necessary in the examination of medical journal publication, the data based on the scholarly medical journals currently published in Korean (Appendix) is used hereafter. For instance, two journals, the *Pusan Uidae Haksulji* (the *Journal of the Pusan Medical College*) and *Oekwa hakhoeji* (the *Journal of the Korean Surgical Society*), started publication in 1959. Yet, it is possible that there were more journals which started in that year, but are not published any more.

Several sources were consulted¹⁷⁾, in order to compile a list of scholarly medical journals currently published in Korea. 125 (111 Korean-lan-

guage and 14 English-language) medical journals listed in the Appendix are almost identical to the core scholarly journals selected by the *Korean Index Medicus* or to the Chi and Yoon's listing of Korean medical journals. However, Sung-ha Lee lists 281 journals as Bio-medical journals published in Korea in 1988. His list includes nursing, dentistry, veterinary medicine and pharmacy journals which are not included in the Appendix. It also includes many obscure journals by minor institutions for which the publication status are in question.

Journal Publication in the 1960s

In 1960, the *Seoul Uidae Japji* was started by the College of Medicine¹⁸⁾ at Seoul National University. Its English title was the *Seoul Journal of Medicine*, the same title previously used for the *Uidae Hakbo* which was published once in 1955 by the college. The first English-language medical journal, the *Yonsei Medical Journal*, was also published from 1960 by the College of Medicine at Yonsei University. These two journals are very important journals not only because they are published by the two most prestigious medical schools in Korea, but also because they are two of the very few Korean medical journals indexed by international databases. Especially, the *Yonsei Medical Journal* has been the only Korean journals covered by the *Index Medicus* for more than 20 years (from 1964 to 1986).

Leaded by these two major journals, a great number of journals began publication in 1960s (Table 4). In fact, the more number of medical journals, were started in the 1960s than in the

17) Sung-ha Lee, "Statistical Analysis on Korean Bio-medical Journals", *Bulletin of the Korean Medical Library Association* 15, nos. 1-2 (1988): 5-14; Bongja Yoon. "An Analysis of the Article Format for Korean Medical Journals", *Bulletin of the Korean Medical Library Association* 17, nos. 1-2 (1990): 17-26; Je Geun Chi and Bongja Yoon, *How to Write Medical Papers and Use Literature Retrieval System* (Seoul: Seoul National University Press, 1992), pp. 204-11, 269-84.

18) Medical graduate program in Korea is a post-graduate education offered by a college of medicine. Thus, a journal published by a medical college is, by the American standard, a medical school journal.

**Table 4. Number of Scholarly Medical Journals Started in Each Decade by Publisher Type
(Limited to Those Journals Currently Published in Korea)**

| Publisher type | 1940s | 1950s | 1960s | 1970s | 1980s | 1990 | Total |
|----------------------|----------|-----------|-----------|-----------|-----------|----------|-------------|
| Association | 1 | | 2 | | 1 | | 4 (3.2%) |
| Medical college | | 3 | 7 | 10 | 12 | | 32 (25.6%) |
| Commercial publisher | | 1 | 1 | | | | 2 (1.6%) |
| Hospital | | | | 5 | 4 | | 9 (7.2%) |
| Research institute | | 1 | 1 | | 1 | | 3 (2.4%) |
| Specialists society | 1 | 7 | 21 | 11 | 31 | 4 | 75 (60.0%) |
| Total | 1 | 12 | 32 | 26 | 49 | 4 | 125 |
| | (1.6%) | (9.6%) | (25.6%) | (20.8%) | (39.2%) | (3.2%) | (100.0%) |

1970s (32 vs. 26 journals). Especially many more specialty journals began publication in the 1960s than in the 1970s (21 vs. 11). The creation of new specialty journals was very active during the 1960s for two reasons. Firstly, many medical specialists societies which have long been existed from the period before the Korean War, were finally able to publish their official journals. For instance, the Korean Society of Biochemistry began publication of its journal in 1964, 16 years after the foundation of the society. The Korean Orthopaedic Association began the official journal in 1966, 10 years after its establishment. The Korean Pathology Society and the Korean Physiological Society journals began publication in 1967, 20 years after the foundation of the societies. Secondly, the number of medical specialists societies were increased to more than 30 in 1960s. In some cases, a medical society was divided into two separate entities to reflect the specialization trends of the medical fields. For instance, the Korean So-

ciety of Dermatology and Urology was split into the Korean Society of Dermatology and the Korean Society of Urology in 1954¹⁹⁾, and the first issues of the journals by these two individual societies were published in 1960 respectively. As many specialists societies are established, the need for coordination among these societies were recognized, and the Association of Medical Specialists Societies was created as a division in the Korean Medical Association in 1966²⁰⁾. At that time, 32 medical societies participated in the division. Since 28 specialty journals had come to exist by the late 1960s, a majority of the specialist societies existed at that time was publishing its own journal.

Journal Publication in the 1970s

If the 1960s was the development period of specialty journals, the 1970s was of institutional journals (medical colleges or general hospitals). Of the 26 journals which began publication during the 1970s, ten were medical school journals and five were hospital journals (Table 4).

19) Manki Baik, "Hakhoe Whaldong (-1988) [Medical Associations & Societies till 1988]", in *Hanguk Hyundae Uihaksa [History of Modern Medicine in Korea]* (Seoul: Korean Medical Association, 1988), p. 181-84.

20) Manki Baik, "Medical Associations & Societies till 1988", p. 123.

Table 5. Number of Medical Colleges Started in Each Year

| Pub. begin year | No. of journals | Pub. begin year | No. of journals |
|------------------------------|-----------------|--------------------|-----------------|
| Before 1944 | | In 1960s | |
| 1885 | 1 | 1965 | 1 |
| 1923 | 1 | 1966 | 1 |
| 1937 | 1 | 1967 | 1 |
| 1944 | 1 | 1968 | 1 |
| | Total 4 | | Total 4 |
| Between 1945 and 1949 | | In 1970s | |
| 1945 | 1 | 1971 | 2 |
| 1946 | 1 | 1978 | 1 |
| | Total 2 | 1979 | 2 |
| | | | Total 5 |
| In 1950s | | In 1980 | |
| 1954 | 1 | 1980 | 1 |
| 1955 | 1 | 1981 | 3 |
| | Total 2 | 1982 | 1 |
| | | 1985 | 2 |
| | | 1986 | 2 |
| | | 1987 | 1 |
| | | 1988 | 3 |
| | | | Total 13 |
| | | Grand total | 30 |

COMPILED FROM: 1990-1991 *Haknyundo Uikwa-Daehak-Gyounok-Hyunwhang* [Yearbook of Medical College Education for the Academic Year 1990-1991] (Seoul: Hankguk Uikwa Daehakjang Hyopuihoe [Korean Association for Deans of Medical Colleges], 1991).

Probably the most unique type of scholarly journals prevalent in Korea is a medical school journal published by a medical college. 20 medical school journals were being published by 17 medical colleges existed (Table 5) by the end of 1970s, making the average number of journals published by medical colleges more than one²¹⁾. Almost all of the medical colleges publish at least one journal. If it does not publish its own

medical journals, medical papers produced by its constituents are published in its parent university journal along with papers of other disciplines.

Contributors to these journals are mainly the members of the publishing schools or those who are collaborating with these members from other institutions. For example, all the papers published in the March 1990 issue of the *Seoul Journal of Medicine* (Vol. 31, no. 1) were contributed, in part or full, by the researchers affiliated with the SNU medical college (Table 6). Four

21) By the same token, 32 journals were published by 30 medical colleges in 1990.

Table 6. Corporate Sources of Papers Published in Two Medical College Journals

| Doc. no. | Doc. type | No. of authors | Corporate sources |
|--|-----------|----------------|---|
| Seoul Journal of Medicine^a | | | |
| (vol. 31, no. 1) | | | |
| 1 | OA | 7 | SNU & SNU Hospital & Inje Univ. |
| 2 | OA | 7 | SNU & SNU Hospital & Inje Univ. |
| 3 | OA | 6 | SNU Hospital |
| 4 | OA | 2 | SNU & Univ. of Minnesota |
| 5 | CR | 5 | SNU & Cheil Hospital |
| 6 | CR | 4 | SNU & CHA Hospital |
| 7 | CR | 4 | SNU |
| Yonsei Medical Journal^b | | | |
| (vol. 31, no. 1) | | | |
| 1 | RE | 1 | University of Alabama (Korean Named author) |
| 2 | OA | 3 | Yonsei |
| 3 | OA | 2 | Yonsei(Wonju & Seoul) |
| 4 | OA | 4 | Yonsei |
| 5 | OA | 2 | Yonsei |
| 6 | OA | 1 | Yonsei |
| 7 | OA | 6 | Yonsei |
| 8 | CR | 7 | Wakamatsu Municipal Hospital |
| 9 | CR | 8 | Yonsei |
| 10 | CR | 3 | Yonsei |

NOTE: CR(Case Reports), OA(Original Article), RE(Review Article).

^aPublished by the College of Medicine at Seoul National University in March, 1990.

^bPublished by the College of Medicine at Yonsei University in March, 1990.

of these seven papers were joint works with researchers in other Korean institutions, and one paper was with a researcher in a foreign university, the University of Minnesota. None of these outside contributors was the first author of the papers. In case of the March 1990 issue of the *Yonsei Medical Journal* (Vol. 31, no. 1), six original articles and two case reports were contributed by members of the Yonsei medical college. One review paper was contributed by a Korean-named author whose address is at the University of Alabama, and one case reports was contributed by Japanese doctors at Wakamatsu Municipal Hospital in Japan. Not a

single paper was independently contributed from other Korean institutions in both journals. These two unsophisticated samples illustrate that these journals do not pursue a wider community of contributors. They remain as the closed spaces for insiders or those limited outsiders who are directly connected to insiders through joint research. (It is suspected that these outsiders are associated with the medical school by the schooling.)

The referee system of these journals is, no doubt, perfunctory. The lack of fair competition in publishing papers in these journals have inevitably allowed the cumulation of poor-quality

papers. This must be a commonly shared notion in the academic world in Korea. According to the guideline for the nationwide evaluation of university departments initiated by the Korean Council for the University Education, the papers published in university journals are not supposed to be counted in the compilation of lists of research papers and in the computation of research productivity by a university department²²⁾.

Five major general hospitals without any affiliation to medical colleges or to research institutes began publication of scholarly journals in 1970s. These journals are also inside journals to which the articles are contributed by medical staff of the publishing hospitals. Often a hospital, with a medical journal in good standing, created a medical college and the hospital became a training hospital affiliated with the college. Incidentally, the hospital journal was superseded by the journal of the medical college. For instance, the *Human Science* started in 1977 by Hangeung Hospital has been published by the College of Medicine at Hallym University since 1982 when the medical school was founded by the hospital²³⁾.

22) The academic year of 1993 is the second year of such nationwide evaluation of university departments. Chemistry and mechanical engineering departments are evaluated this year. In the first year, physics and electronic engineering departments were evaluated. '93 *Whahak-kwa Pyungga Injung Kijun* [Criterion and Basis of Nationwide Evaluation of University Chemistry Department: 1993], Jaryo je-92-796ho [Research materials no. 92-96], (Seoul: Hankuk Dahak Kyook Hyopui-hoe [Korean Council for the University Education], 1992), p. 62.

23) The type of the publishing body of a journal used in Table 4 and 8 is determined by the nature of the body at the present time. Thus, for example, the *Human Science* was coded as a medical college publication, although it is correct to say it was a hospital journal in the 1970s.

The reasons why a general hospital capable of publishing a scholarly journal of quality, usually makes an enormous development in a short time and entertains an ambition of having a teaching institution affiliated with it are very obvious. It is because a scholarly journal can not be continuously published by a general hospital, unless supported by a tangible size manpower strongly motivated to do good research and by the substantial research facilities--the bases required for the opening of a medical college.

Journal Publication in the 1980s

The most distinctive characteristics of medical journal publication during the 1980s is the sheer number of journals newly started. Of 125 scholarly medical journals currently published in Korea, 49 journals began publication during the 1980s. This is almost 40% of all the current medical journals (Table 4). Especially in 1985, the publication of ten new journals were made (Table 3).

87.7% (43/49) of these newly started journals are published by medical colleges (12 journals) or by medical specialists societies (31 journals). The 12 new medical school journals form 37.5% of 32 such journals currently published in Korea. The 31 new specialty journals form almost a half (41.3%)²⁴⁾ of the 75 specialty journals.

Since much of the existing medical colleges and medical societies already have their journals published by the end of the 1970s, the rapid growth in journal publication during the 1980s was facilitated mainly by medical colleges and by specialists societies newly established in the

24) Or, 46.7% if four journals started in 1990 are included here.

period. During the 1980s, 13 new medical colleges were founded (Table 5), and 12 new medical school journals were published. It again supports the previously-made observation that each medical college in Korea tries to publish at least one research journal. Much of the 31 new specialty journals were initiated by the specialists societies founded during the 1980s, especially by sub-specialty organizations which have been founded during the 1980s representing a further specialization of a major specialty. For instance, in the area of orthopaedics, several subspecialty organizations representing each part of a body were formed by interested orthopaedicians during the 1980s. They are the Taehan Bokkwanjul Hakhoe (the Korean Klip Soceity) formed in 1981, the Taehan Seulkwanjul Hakhoe (the Korean Knee Society) in 1983, and the Taehan Chukchu Oekwa Hakhoe (the Korean Vertebra Society) in 1984²⁵⁾. The Korean Knee Society publishes an annual official journal from 1987. The other two societies have not published its own journals yet, and the members of these societies publish in the *Journal of the Korean Orthopaedic Association*.

To a certain degree, the rapid growth in the number of new medical journals started during the 1980s is attributable to the shortened time lag between the foundation of an organization and the publication of its official journal. For instance, the Taehan Kajung Uihakhoe (the Korean Academy of Family Medicine) was founded in January of 1980, and the first issue of its official journal, the *Kajungui*, was published in November of the same year. The recent trend has been that the necessity for the publication of a new specialty journal asks for a formation of new specialists societies. This is a tremen-

dous advancement in the medical journal publication environments, compared to the 1960s when the foundations of medical journals were possible by those organizations which had been around longer than ten years.

The shortened time lag in the creation of a medical journal by a new organization indicates that a fairly big size medical community has been established in Korea over the last 30 years. Accompanied by the development in the medical education system and in the medical specialist system, the great potential must have been laid up. That is, the rapid increase in the number of medical schools, students, interns, residents, and medical specialists, etc., resulted in the increase in the number of potential researchers who will produce research papers to be published in medical journals.

Characteristics of Scholarly Medical Journals Currently Published in Korea

In the above, medical journals which had been or are being published in Korea were examined by period in order to show the development of medical journal publication in Korea and to capture the characteristics that might have influenced medical journals currently published in Korea. In this section, the status and the characteristics of the shcolarly medical journals currently published in Korea, based on 125 journals listed in the Appendix, are discussed. As it was examined in the above, none of the medical journals existed before 1945 (during the Japanese occupation period) is currently published. The *Journal of the Korean Medical Association* which began publication in 1948, is the journal with the longest history. Only two of the journals existed before the Korean War in 1950 are currently published. All the other current medical journals was started after 1953 (after the

25) Manki Baik, "Medical Associations & Societies till 1988", p. 224-26.

war). The number of journals started in each year is shown in Table 3. Surely, the most number of medical journals was started in the 1980s.

Publishers

A majority (84.9%) of the current medical research journals are generated either by medical colleges or by specialists societies (Table 4). One half of the rest is published by general hospitals (7.1%) and the other half is published by general medical associations (4.0%), by research institutes (2.4%) and by commercial publishers (1.6%).

Institutional journal: One distinctive feature of the Korean medical journal publication is the prevalence of institutional journals (medical college, general hospital, or research institute journals). The journals are general in scope since the published papers are contributed from the various departments of the institutions. The main purpose of these journals is to furnish an opportunity for members of the institutions to publish. The closeness of the journals naturally limits open competitions and object referring of submitted papers, and the resulting journals often contain papers fall short of the standard.

Medical school journals make up a major portion of institutional journals. There are currently 32 medical school journals. And there are nine general hospital journals published. On the contrary, only three journals are identified as journals published by research institutes²⁶⁾. This is because not many medical research institutes exist in Korea. In addition, if a journal is put out by a research institute which belongs to a

medical college, then it is regarded as a medical college journal. For instance, the *Korean Journal of Occupational Health* published by the Institute of Occupation Health of the College of Medicine at Catholic University, the *Bulletin of the Clinical Research Institute* by the Medical Center of Catholic University, and the *Yonsei Reports on Tropical Medicine* by the Research Institute of Tropical Medicine of the College of Medicine at Yonsei University are treated as medical colleges journals rather than research institute journals.

Specialty journal: A specialty journal is also to provide publishing spaces for members of a specialists society. Yet, there seems to be a fair amount of competition among contributors since the members are from various institutions. These journals heavily relies upon contribution of papers from medical residents. Or, it is an inevitable phenomenon due to the requirements imposed upon medical residents by each specialists society to publish at least one or two research papers in major journals in order to qualify for the national board. With the fast increase in the number of medical trainees, the number of research papers produced and published in specialty journals by these group has increased rapidly²⁷⁾. However, there are criticism that the papers are not of quality.

Commercial journal: Currently, there are two journals published by commercial publishers. The papers published in these journals are acceptable in counting the number of research papers required for medical residents to apply for the national medical board, but the journals are usually not the first choices of medical researchers. The journals are not specialty journals and are oriented toward general audiences in

26) They are *Kugrip Bogunwonbo* (the *Report of the National Institute of Health*), the *Ingu Bogun Nonjip* (the *Journal of Population and Health Studies*), and the *Hanggong Uihak* (the *Journal of Aerospace Medicine*).

27) Jongwhee Jun, "Korean Medical Books and Journals Till 1983", p. 297.

Table 7. Frequencies and Sizes of Selected Korean Medical Journals

| Journal | 1960 | | | | 1970 | | | | 1980 | | | | 1990 | | | |
|---------------------------|------|-----|-----|-----|----------------|-----|-----|-----|------|-------|-----|-----|------|-------|-----|-----|
| | (A) | (B) | (C) | (D) | (A) | (B) | (C) | (D) | (A) | (B) | (C) | (D) | (A) | (B) | (C) | (D) |
| Seoul J Med(1960/1985)* | 3/A | 346 | 23 | 3 | Q | 236 | 14 | 0 | Q | 423 | 47 | 6 | Q | 298 | 30 | 30 |
| Yonsei Med J(1960)* | A | 102 | 14 | 14 | SA | 227 | 21 | 21 | SA | 185 | 21 | 21 | Q | 383 | 48 | 48 |
| J Kor Pediat Assoc(1958) | 2/Y | 120 | 14 | 0 | M | 706 | 85 | 0 | M | 1,060 | 141 | 0 | M | 1,752 | 225 | 0 |
| J Kor Surgical Soc(1959) | A | 143 | 14 | 0 | M | 938 | 131 | 1 | M | 1,159 | 100 | 0 | M | 1,646 | 212 | 0 |
| J Kor Radiol Soc(1964) | - | - | - | - | not obtainable | | | | SA | 684 | 94 | 0 | BM | 1,303 | 189 | 20 |
| Kor J Biochem(1964/1975)* | - | - | - | - | not obtainable | | | | SA | 100 | 10 | 10 | SA | 284 | 16 | 16 |
| Kor J Dermatology(1960) | 2/Y | 149 | 23 | 0 | 2/Y | 185 | 35 | 0 | BM | 640 | 79 | 10 | BM | 830 | 131 | 0 |

NOTE: (A) Frequency, (B) Total number of pages, (C) Number of papers, and (D) Number of English-language papers.

*English-language journal. The second date indicated in () is the year when the journal was changed into an English-language journal from a Korean-language journal.

the area of medicine, yet they are not quite like the journal, *Nature*.

In the very early period when not many medical journals were around in Korea, commercial journals were very valuable resources. But, there seemed to be not much room for such journals to survive nowadays. It has a lot to do with the facts that these journals were operated by small publishers²⁸⁾ who was always under financial difficulties, and the journals could not have large circulations to break even in cost. To make the survival even harder, scholarly journals (other than the two commercial journals) in Korea are published not-for-sale or distributed free to the members.

Frequency and size

In general, Korean medical journals are not thick in volume. Neither are they published frequently. For instance, the average number of papers in each issues of the journals selected in

Table 7 is 10 to 15. An interesting thing is that, if an expansion of journal space is needed, the number of papers published in each issue is kept in that range and the journal is published more frequently instead. Since the journals in Table 7 are major journals with long tradition and with fairly good publication records, it is expected that the overall average number of papers of Korean journals are lower.

Over the past 30 years, publication frequencies of the journals in Table 7 have increased, from semi-annual or annual to monthly or bi-monthly. But, 67.2% (74/125) of the current Korean medical journals is published either semi-annually or annually (Table 8). More-frequently published journals are published by medical specialists societies. All of the nine bi-monthly journals and a half of monthly or quarterly journals are specialty journals. One third of the medical college journals are published relatively frequently (monthly or quarterly). The two commercial journals are published monthly.

Journals published by research institutes are either semi-annual or annual. Along with the fact that there are only a few research insti-

28) There is no name like "Elsevier" known for publishing medical journals in Korea, nor are there any such publishers for science and technology journals.

Table 8. Frequency of Scholarly Medical Journals Currently Published in Korea by Publisher Type

| Publisher type | M | BM | Q | TA | SA | A | Total |
|----------------------|---------------------|--------------------|----------------------|--------------------|----------------------|----------------------|------------------------|
| Association | 1 | | 1 | | 1 | 1 | 4 (3.2%) |
| Medical college | 2 | | 9 | 2 | 9 | 10 | 32 (25.6%) |
| Commercial publisher | 2 | | | | | | 2 (1.6%) |
| Hospital | | | 1 | | 4 | 4 | 9 (7.2%) |
| Research institute | | | | | 2 | 1 | 3 (2.4%) |
| Specialists society | 6 | 9 | 8 | | 31 | 21 | 75 (60.0%) |
| Total | 11 (8.8%) | 9 (7.2%) | 19 (15.2%) | 2 (1.6%) | 47 (37.6%) | 37 (29.6%) | 125 (100.0%) |

Table 9. English-Language Medical Journals Currently Published in Korea by Publication Begin Year

| Journal | Frequ- ency | Year pub. began | Subject | Publisher type |
|-------------------------------|----------------|-----------------------|-------------------|---------------------|
| SEOUL J MED(1985)* | Q | 1960 | GENERAL MEDICINE | Medical college |
| YONSEI MED J | Q | 1960 | GENERAL MEDICINE | Medical college |
| CHONNAM J MED SCI(1988)* | SA | 1964 | GENERAL MEDICINE | Medical college |
| KOR J BIOCHEM(1975)* | SA | 1964 | BIOCHEMISTRY | Specialists society |
| KOR J PHARMACOLOGY(1985)* | SA | 1965 | PHARMACOLOGY | Specialists society |
| J KOR CANCER RES ASSOC(1984)* | SA | 1968 | MEDICAL ONCOLOGY | Specialists society |
| YONSEI REPORTS TROP MED | A | 1970 | TROPICAL MEDICINE | Medical college |
| BULL CLIN RES INST | A | 1973 | GENERAL MEDICINE | Medical college |
| KOR J TOXICOL | A | 1985 | TOXICOLOGY | Specialists society |
| J KOR MED SCI | Q | 1986 | GENERAL MEDICINE | Association |
| J KOR ORTHORAEDIC ASSOC(ENG) | A | 1986 | ORTHOPEDECS | Specialists society |
| KOR J INTERNAL MED(ENG) | SA | 1986 | INTERNAL MEDICINE | Specialists society |
| KOR J OPHTHALMOL | SA | 1987 | OPHTHALMOLOGY | Specialists society |
| ANNALS DERMATOL | A | 1989 | DERMATOLOGY | Specialists society |

*Started as a Korean-language journal, but changed into an English-language journal in the year indicated in ().

tutes in the area of medicine in Korea, the infrequent journal publication by these institutes may indicate that the research institutes are not in the center of medical research activities in Korea.

English-language journals

The papers published in Korean medical jour-

nals are mostly in the Korean-language. There has been an increase in the number of English-language articles published in Korean journals (Table 7). And a bunch of English-language journals have been created during the 1980s. Whereas there existed only four English-language medical journals before 1984, 14 English-language journals are published in Korea as of

1990 (Table 9).

The *Yonsei Medical Journal* was the first English-language medical journal published in Korea from 1960. The second English-language journal, the *Yonsei Reports on Tropical Medicine*, was started in 1970. These two journals were published by the Yonsei medical college. The third English-language journal, the *Bulletin of the Clinical Research Institute*, was started in 1973 by the College of Medicine at Catholic University. Then, in 1975, the *Korean Journal of Biochemistry* became an English-language journal. The journal was a Korean-language journal when it began in 1964 by the Korean Society of Biochemistry.

During the mid- and late-1980s (beginning from 1984), four Korean-language journals, including the *Seoul Journal of Medicine*, transformed into the English-language journals, and a half-dozen new journals are published in English. The *Journal of Korean Medical Science* was ambitiously created in 1986 by the Taehan Uihakhoe (Korean Academy of Medical Science) of the Korean Medical Association with the intention to publish only those medical papers which are publishable in international journals with high reputation. The journal made into the MEDLINE and EMBASE databases immediately, which was an epoch-making event in Korean medical journal publication history. Four English-language specialty journals started in the late 1980s--the *Journal of the Korean Orthopaedic Association*, the *Korean Journal of Internal medicine*, the *Korean Journal of Ophthalmology*, and the *Annals of Dermatology*--are the second journals published officially by each medical societies along with their official Korean-language journals.

More than half of the English-language journals (8 out of 14 journals) are specialty journals published by medical specialists societies. Five

journals are published by medical colleges. One medical college journal, the *Yonsei Reports on Tropical Medicine*, is a specialty journal, and the other four are general journals covering every field of medicine. Also, the *Journal of Korean Medical Science* published by the Korean Medical Association is a general journal.

These English-language journals are not the frequently-published journals at all: they are mostly annuals (5 journals) or semi-annuals (6 journals). At the most, they are published four times a year (3 journals).

Journals indexed or abstracted internationally

The intention of Korean researchers to write research reports in English (or in any foreign language for that matter) is obvious. They wanted their papers to be read (or recognized) internationally whether they are published in Korean journals or in English-language Korean journals or in international Journals. In the same context, many Korean researchers wish that Korean journals are to be indexed or abstracted by renowned international databases. Because the inclusion of the journals in the databases means their published papers in such journals are accessible by scientists in the world. Unfortunately, the Korean medical journals are not widely covered by international databases of importance in the area of medicine such as *Index Medicus*/MEDLINE and *Excerpta Medica*/EMBASE (Table 10), although quite many of the Korean medical journal are covered by the *Chemical Abstracts*/CAS and by the *Biological Abstracts*/BIOSIS. (Whether a journal is covered by these databases are indicated in Appendix). None of the Korean medical journals is indexed in the Science Citation Index (SCI). Only one Korean journal covered by the database is a chemistry journal, the *Bulletin of*

Table 10. Number of Papers from Korean Medical Journals Indexed by International Databases

| Journal title | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | Total ^c |
|---|------|------|------|------|------|------|------|------|------|------|---------------------------|
| MEDLINE | | | | | | | | | | | |
| J Korean Med Sci(1986) ^a | n/a | n/a | n/a | n/a | n/a | n/a | 12 | 38 | 26 | 30 | 106 (0) |
| Korean J Ophthalmology(1987) ^a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 23 | 19 | 18 | 60 (0) |
| Yonsei Med J(1960) ^a | 19 | 19 | 22 | 18 | 15 | 24 | 40 | 48 | 51 | 51 | 465 (0) |
| Total | 19 | 19 | 22 | 18 | 15 | 24 | 52 | 109 | 96 | 99 | 631 (0) |
| EMBASE | | | | | | | | | | | |
| Annals of Dermatology(1989) ^a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | | 46 [?] |
| J Korean Med Sci(1986) ^a | n/a | n/a | n/a | n/a | n/a | n/a | 12 | 38 | 20 | 30 | 100 (0) |
| J Korean Soc Microbiol(1958) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 60 (66) [?] |
| J Korean Cancer Res Assoc(1968/1984) ^a | | | | | | | | | | | 11 [?] (164) |
| J Korean Med Assoc(1948) | | | | | | | | | | | |
| Korea Univ Med J(1964) | 16 | 16 | 33 | 15 | 16 | 21 | 18 | 13 | 28 | 0 | 176 (164) |
| Korean J Biochemistry(1964/1975) ^a | 8 | 15 | 4 | 4 | 14 | 19 | 2 | 10 | 15 | 11 | 102 (0) |
| Korean J Dermatology(1960) | 47 | 27 | 20 | 17 | 45 | 49 | 35 | 18 | 50 | 21 | 329 (336) [?] |
| Korean J Parasitology(1963) | | | | | | | | | | | |
| Korean J Pharmacology(1965/1985) ^{a, b} | 17 | 15 | 19 | 16 | 13 | 11 | 16 | 14 | 23 | 23 | 167 (79) [?] |
| Korean J physiology(1967) ^b | 10 | 14 | 21 | 11 | 10 | 14 | 13 | 23 | 14 | 29 | 159 (143) [?] |
| Seoul J Med(1960/1985) ^a | 13 | 10 | 15 | 15 | 15 | 14 | 1 | 14 | 11 | 6 | 114 (72) [?] |
| Tubercul & Resp Dis(1954) ^b | 20 | 23 | 23 | 11 | 18 | 36 | 15 | 24 | 25 | 54 | 249 (231) [?] |
| Yonsei Med J(1960) ^{a, b} | 9 | 27 | 7 | 0 | 0 | 0 | 0 | 0 | 51 | 51 | 145 (0) |
| Yonsei Rep Tropical Med(1970) ^a | 19 | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 (0) |
| Total | 159 | 155 | 144 | 89 | 131 | 164 | 112 | 154 | 237 | 285 | 1,687(1,091) [?] |

NOTE: The following titles are not included in Appendix (List of Scholarly Medical Journals Currently Published in Korea): *Archives of Pharmacal Research* (42 records), *Korean Journal of Pharmacognosy* (22 records), *Research Reports of the Forest Research Institute* (1 record), *Research Reports of the Office of Rural Development* (7 records), *Yakhak Hoeji* (31 records).

^aEnglish-language journals. The foundation year of journal is in (). The second date is the year the journal is changed into an English-language journal initially from an Korean-language journal.

^bAll original articles are abstracted. Other titles are screened selectively.

^cThe total number of Korean-language papers is provided in ().

the Korean Chemical Society.

For a long time, of the 125 medical journals currently published in Korea, the *Yonsei Medical Journal* was the only medical journal covered by the *Index Medicus*/MEDLINE. The journal was indexed by the database from 1964. The *Journal of the Korean Medical Science* and the *Korean Journal of Ophthalmology* were picked

up the database immediately when the journals began publication in 1986 and in 1987. All these three journals are published in English from cover to cover. Two journals each in dentistry and in nursing have been indexed in the database, but they are not in the scope of this study. (Refer to Table 11 and Table 12.)

15 medical journals were covered by the

Table 11. Number of papers from MEDLINE Korean Journals in the Subfields Excluded from the Study

| | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | Total |
|--------------------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Dentistry | | | | | | | | | | | |
| J-Korean-Res-Soc-Dent-Hypn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Taehan-Chikkwa-Uisa-Hyopoe-Chi | 0 | 0 | 0 | 0 | 71 | 52 | 43 | 46 | 0 | 0 | 212 |
| Total | 0 | 0 | 0 | 0 | 71 | 52 | 43 | 46 | 0 | 0 | 212 |
| Nursing | | | | | | | | | | | |
| Kanho-Hakhoe-Chi | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 9 | 31 |
| Taehan-Kanho | 0 | 39 | 49 | 56 | 47 | 53 | 32 | 57 | 40 | 20 | 393 |
| Total | 0 | 39 | 49 | 56 | 47 | 53 | 32 | 57 | 62 | 29 | 424 |

NOTE: Search was made using MEDLINE CD-ROMs. There is no Korean veterinary medicine journal indexed by MEDLINE.

Excerpta Medica/EMBASE during the 1980s²⁹⁾. All original articles and significant contributions from four journals--the *Korean Journal of Pharmacology*, the *Korean Journal of Physiology*, *Tuberculosis and Respiratory Diseases*, and the *Yonsei Medical Journal*--are normally included in the database. But, articles of the other 11 journals are screened selectively for inclusion into the database (Table 10)³⁰⁾. None of the Korean medical journals were indicated as priority journals selected for rapid input of citations and abstracts. Since, this database includes almost a dozen Korean-language journals, Korean-language papers as well as English-language papers are abstracted. Of the 2,513 Korean medical papers identified through EMBASE search for the ten-year period of 1980~1989, 1,493 pa-

pers were Korean-language papers.

Korean Indexes and Abstracts of Medical Literature

Indexes or abstracts (I/A) of medical literature did not exist in Korea till early 1980. The *Index Medicus Korea* was published from 1970 to 1974 by the Research Institute of Medical Science of Korea at Sacred Heart Chhung-ang Medical Foundation. 57 medical journals were indexed in English. The format of the index journal was very similar to that of the *Index Medicus* published by the National Library of Medicine of the United States. The *Korean Medical Abstracts* has been published since 1971 by Hanguk Sanup Kisul Jangbo Yonguwon (KINITI, Korean Institute of Industry and Technology Information)³¹⁾. It is a quarterly

29) There were five more titles covered in EMBASE during the 1980s that are not included in the Appendix. They are the *Archives of Pharmacal Research*, the *Korean Journals of Pharmacognosy*, the *Research Reports of the Forest Research Institute*, the *Research Reports of the Office of Rural Development*, and the *Yakhak Joeji*.

30) The basis for the selection is originality of an article. "Introduction" *List of journals abstracted: 1990* (Amsterdam: Excerpta medica, c1989).

31) The publisher name has been changed numerously since the beginning as Hanguk Kwahak Kisul Jungbo Center (KORSTIC, Korean Scientific and Technical information Center). Sanup Yonguwon (KIET, Korea Institute for Economics and Technology) was the name before the last change was made.

Table 12. Number of Korean Papers Found in the Subfields Excluded from the Study

| | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | Total |
|------------------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Dentistry^a | | | | | | | | | | | |
| MEDLINE | | | | | | | | | | | |
| from K js | 0 | 0 | 0 | 0 | 71 | 52 | 43 | 46 | 0 | 0 | 212 |
| non-k js | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 |
| Total | 0 | 0 | 0 | 0 | 71 | 52 | 43 | 46 | 1 | 2 | 215 |
| SCI | | | | | | | | | | | |
| non-K js | 2 | 1 | 1 | 3 | 0 | 0 | 4 | 2 | 2 | 6 | 21 |
| meeting ab | (0) | (0) | (0) | (28) | (28) | (35) | (46) | (62) | (54) | (54) | (307) |
| Total | 2 | 1 | 1 | 31 | 28 | 35 | 50 | 64 | 56 | 60 | 328 |
| Veterinary Medicine | | | | | | | | | | | |
| MEDLINE | | | | | | | | | | | |
| non-K js ^c | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 4 |
| SCI | | | | | | | | | | | |
| non-K js | 0 | 3 | 0 | 2 | 2 | 0 | 0 | 1 | 1 | 2 | 11 |
| Nursing^b | | | | | | | | | | | |
| MEDLINE | | | | | | | | | | | |
| from K js | 0 | 39 | 49 | 56 | 47 | 53 | 32 | 57 | 62 | 29 | 424 |
| non-k js ^c | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 39 | 49 | 56 | 47 | 53 | 32 | 57 | 62 | 29 | 424 |

NOTE: Search was made using MEDLINE CD-ROMs. EMBASE does not cover veterinary medicine; covers dentistry and nursing selectively. None of the Korean journals is an EMBASE journal.

^aFor number of dental articles found in SCI, the number of meeting abstracts indicated in () are subtracted from the total number of articles found in the database. All of the meeting abstracts appear in the *Journal of Dental Research*.

^bNursing is not covered by SCI.

^cAlthough MEDLINE CD-ROMs are available from 1966, records created before 1988 do not contain the Address of Authors field—the reason why zero record was retrieved between 1980 and 1987 in most of the cases. Because of this “quick and dirty” search method used to retrieve Korean articles from non-Korean journals in MEDLINE, it is possible that there might be some records unretrieved.

publication and covers 82 medical journals³²⁾. The language of the abstracts is English, not Korean. The *Medical Abstract Korea* has been published also in English by the Korean Medical Association from 1974. It is an annual publi-

cation and covers 67 medical journals³³⁾.

A 12-volume retrospective medical abstracts, the *Haksul Chongram: Uihakpyon* [Abstracts of Scholarly Papers: Medicine] was published in 1981 by the National Academy of Sciences of

32) Chi and Yoon, *How to Write Medical Papers and Use Literature Retrieval System*, p. 215.

33) Chi and Yoon, *How to Write Medical Papers and Use Literature Retrieval System*, p. 214.

Korea and completed in 1991. It covers the medical journals published in Korea between 1901³⁴⁾ and 1984, and abstracts of medical papers are arranged by MeSH subject terms. The *Haksul Chongram: Uihakpyon* is, in theory, continued by the *Korean Index medicus* whose coverage begins from 1982. The *Korean Index Medicus*, published in English by the Korean Medical Library Association, is printed index not searchable on-line. The coverage among these secondary sources overlap in full. Therefore, the *Korean Index Medicus* which currently indexes more than 120 titles, is the most comprehensive sources of Korean medical literature.

A computerized medical database did not exist in Korea till very recent. It was possible from November 1991 to search bibliographic and abstracts information of medical literature on-line, through Chonriian II network service provided by the DACOM (Data Communications Corporation of Korea)³⁵⁾. The same set of journals covered in the *Korean Index Medicus* is indexed in the database, Uihaknonmun (its English name is MEDINDEX). The database is different from the *Korean Index Medicus* in that it includes abstracts information. The database covers from 1988 and is being expanded to the earlier years³⁶⁾.

34) The Volume IX were planned to cover the period between 1901 and 1944, but the journals abstracted in this volume are the following four titles: *Chosun Uihakhoe Japji* (1911-43), *Mansunji Uikye* (1921-42), *Chosun Uibo* (1930-36), and *Kyungsung Uihak Junmun Hakkyo Kiyoe* (1931-43). The earliest journal abstracted began publication in 1911. *Haksul Chongram: Uihakpyon* [Abstracts of Scholarly Papers: Medicine] Vol. IX (Seoul: National Academy of Sciences of Korea, 1988), Preface.

35) Chi and Yoon, *How to Write Medical Papers and Use Literature Retrieval System*, p. 228.

36) *Chonriian II Iyong Annae: Uihaknonmun Jungbo* [User Guide for Chonriian II: Bibliographic Information for Medical papers] (Seoul: DACOM & MEDINET, 1991), p. 9.

Interestingly enough, these secondary sources in the medical field are produced in English (except the *Haksul Chongram* in which abstracts were written in Korean). The abstracts appearing in these I/A publication or in the database are taken from the English-language abstracts published in Korean medical journals. The English abstracts are almost always required to accompany Korean text articles. Also the bibliographic information for journal titles and for every article included in these journals is given both in Korean and English. These are the signs that Korean medical journal publishers and researchers put substantial efforts to be integrated into the international medical communication network.

In the present circumstances where not many Korean medical journals are covered by major international databases, making bibliographic information and I/As available in the international language is a desirable way to make known the existence of Korean papers internationally and, of course, domestically. Yet, since Korean medical secondary sources are not up-to-date³⁷⁾ and are not able to utilize the state-of-the-art technology to provide services, they are neglected even by Koreans. Simply, it is not only inconvenient but also far less effective to search the *Korean Index Medicus*, for example, than to use MEDLINE CD-ROMs. The use of the MEDINDEX database is limited because of the very limited amount of information available at the present time. The database is not up-to-date either. Besides, it costs for users to search the MEDINDEX, whereas MEDLINE CD-ROMs are usually provided to users without fee in most of medical libraries in Korea. The

37) For instance, a three-year time lag exists in the publication of the *Korean Index Medicus*. The 1989 volume was published in 1992, and the 1990 volume is not yet available in May 1993.

Table 13. Number of Medical Papers Covered in the *Haksul Chongram* and in the *Korean Index Medicus*

| Vol. no. ^a | Years covered | No. of journals ^b | No. of papers | No. of papers/year |
|---|--------------------|------------------------------|---------------|--------------------|
| Abstracted by the <i>Haksul Chongram</i> | | | | |
| IX | 1901-44 (44 years) | 4 (3) | 485 | 11.0 |
| VIII | 1945-64 (20 years) | 39 (1) | 2,195 | 109.8 |
| VII | 1965-68 (4 years) | 45 (1) | 4,576 | 1,144.0 |
| V | 1969-70 (2 years) | 49 (2) | 2,854 | 1,427.0 |
| IV | 1971-72 (2 years) | 50 (2) | 3,279 | 1,639.5 |
| III | 1973-74 (2 years) | 54 (2) | 4,048 | 2,024.0 |
| II | 1975-76 (2 years) | 59 (3) | 3,725 | 1,862.5 |
| I | 1977-79 (3 years) | 71 (3) | 6,546 | 2,182.0 |
| VI | 1980-81 (2 years) | 74 (3) | 5,925 | 2,962.5 |
| X | 1982 (1 years) | 68 (3) | 3,718 | 3,718.0 |
| XI | 1983 (1 years) | 68 (3) | 2,776 | 2,776.0 |
| XII | 1984 (1 years) | 68 (3) | 3,983 | 3,983.0 |
| Total | | | 44,107 | |
| Indexed by the <i>Korean Index Medicus</i>^c | | | | |
| | 1982-82 (2 years) | 92 (3) | 8,864 | 4,432.0 |
| | 1984-85 (2 years) | 107 (5) | 10,024 | 5,012.0 |
| | 1986 (1 year) | 115 (10) | 5,727 | 5,727.0 |
| | 1987 (1 year) | 116 (10) | 5,868 | 5,868.0 |
| | 1988 (1 year) | 118 (11) | 6,036 | 6,036.0 |
| | 1989 (1 year) | 120 (11) | 6,150 | 6,150.0 |
| Total | | | 42,699 | |

Compiled from: *Haksul Chongram: Uihakpyon [Abstracts of Scholarly Papers: Medicine]* (Seoul: National Academy of Sciences of Korea, 1981-1991). 12 Vols. *Korean Index Medicus* (Seoul: Korean Medical Library Association, 1986-).

^aVolume number of *Abstracts of Scholarly Papers: Medicine*.

^bNo. of English-language journals in (), except the vol. IX. The three journals were published in Japanese-language.

^cThe 1989 volume published in 1992 is the latest edition (as of May 1993).

underuse of Korean papers domestically and internationally, caused in part by this underdevelopment of I/As of Korean medical journals, has often been confounded with the perception that the Korean papers are of insignificant value. Consequently, the need for Korean medical I/As had not been urgent, because many researchers believed that they could get by without I/As for Korean medical literature, or

even without Korean medical literature. This must have been a vicious circle.

Growth of Research Papers Published in Korean Medical Journals

As it was examined in the previous sections, the number of Korean medical journals increased over the last 30 years, and journals, in

general, became bigger and published more frequently than before. Thus, the number of papers published in these journals must have increased to a greater extent.

The statistical information to show the growth of Korean medical papers since the beginning of journal publication in Korea in 1908, was not obtainable through literature survey. Thus, the information on the number of papers published in Korean medical journals in each year was compiled, using the summarized figures given in the prefaces of each cumulated volumes of two secondary sources, the *Haksul Chongram* for the 1901~1984 period and the *Korean Index Medicus* for the 1982~1989 period (Table 13). In other words, the number of papers indexed in these two sources is defined as the total number of scholarly papers published in Korean medical journals. One of the problems in using the combined datasets for the examination of the growth pattern over certain lengths of time period is the varied coverage of the two different sources: the coverage of the *Korean Index Medicus* is more comprehensive than the coverage of the *Haksul Chongram*. It is inevitable that the relative growths of journals and papers published during the period covered by the *Korean Index Medicus* (1980s) look bigger than they actually should have been. Therefore, a caution is required in interpreting Figure 1 in which the percentage growths of Korean medical journals and papers were plotted in five-year intervals from 1960 to 1990, because the points for 1985 and 1990 are based on the *Korean Index Medicus* data and the other points are based on the *Haksul Chongram* data. Another problem is that the cumulation intervals of the *Haksul Chongram* were too wide, especially for the early period, to make a fair interpolation of a point in time covered in the abstracts. Thus, earlier years were excluded in plotting Figure 1,

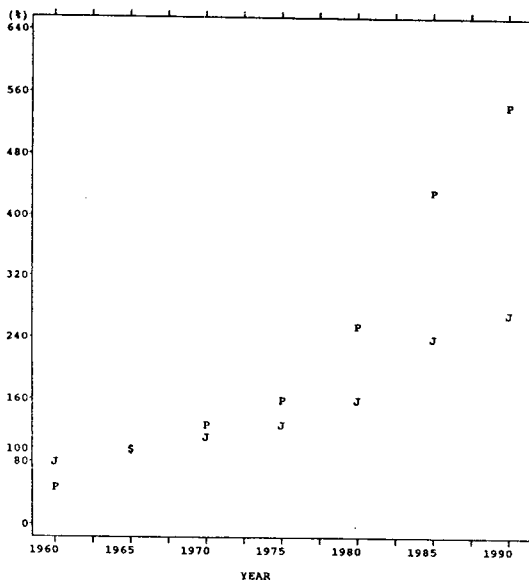


Fig. 1. Percentage Growth of Korean Medical Journals and Papers Indexed in the *Haksul Chongram* and in the *Korean Index Medicus* (1960~1990)

J: Number of journals

P: Number of papers

S: 1965 is used as a base year.

NOTE: For 1960, the estimated numbers, 39 and 500, are used as the numbers of journals and papers respectively.

and the year of 1965, from when rather frequent cumulations were made, was used as a base year. Despite of the rashness in this method of data collection, Figure 1 clearly demonstrates that the growth is more rapid in the number of papers published (i.e., indexed in these indexes and abstracts) than in the number of journals.

Few observations are possible to make using the information presented in Table 13. Firstly, the average number of papers published in each year had been doubled in the next decades. Less than 500 medical papers were abstracted (i.e., published) in 1960³⁸⁾, about 1,400 papers were

38) This is an estimated number.

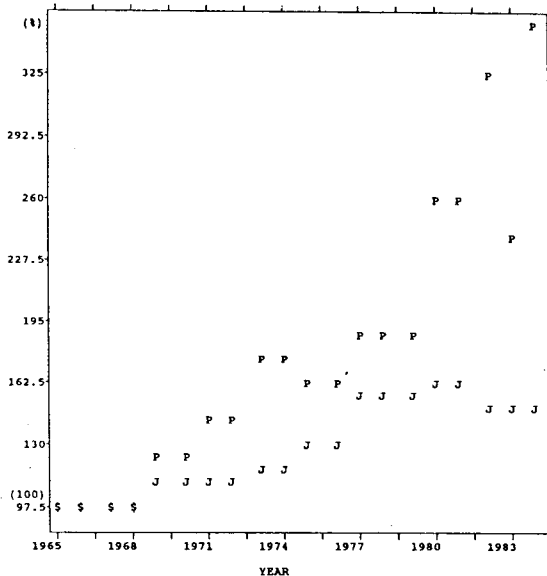


Fig. 2. Percentate Growth of Korean Medical Journals and Papers Indexed in the *Haksul Chongram* From 1965 To 1984

J: Number of journals
 P: Number of papers
 \$: 1965 is used as a base year.

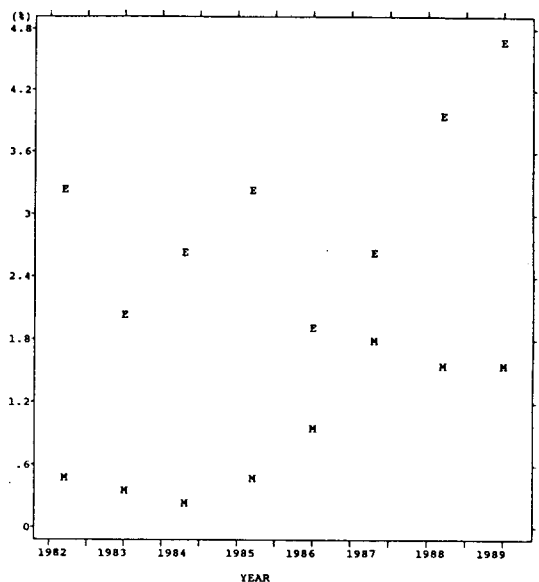


Fig. 3. Percentage Growth of Korean Medical Journals and Papers Indexed in the *Korean Index Medicus* from 1982 to 1989.

P: Number of papers
 J: Number of journals
 \$: 1982 is used as a base year.

published in 1970, 3,000 papers were published in 1980, and 6,200 papers were published in 1989. Secondly, the 1980s has been an explosion period of medical papers. As magnified in Figure 2, the number of medical papers abstracted per year in the *Haksul Chongram* was greatly increased in 1980 and continued to increase in that rate afterwards. The big jump in 1984~1985 in Table 13 is attributable in most part to the more comprehensive coverage of the *Korean Index Medicus*. Still, the number of medical papers indexed each year in the *Korean Index Medicus* was increased continuously (Figure 3). Thus, 3,000 to 6,000 papers were published in each year in the 1980s, and the number of pa-

pers produced during the 1980s reached approximately 50,000 papers³⁹. This is almost twice of the papers covered in the *Haksul Chongram* till 1979 (27,700 papers).

Internationalization of Korean Medical Papers

Of the 50,000 papers published in Korean medical journals during the 1980s, only a quite few papers has been indexed by international medical database. Altogether 631 papers (1.3%) were indexed in MEDLINE, and 1,687 papers (3.4%) were abstracted by EMBASE (Table 10). It is not surprising since we know that one to three journals are indexed by MEDLINE and 15 journals were abstracted on the off, and selectively by EMBASE. Yet, the implications of the

39) Specifically, 42,669 papers were indexed in the *Korean Index Medicus* during the eight-year period (1982-1989) covered by the index.

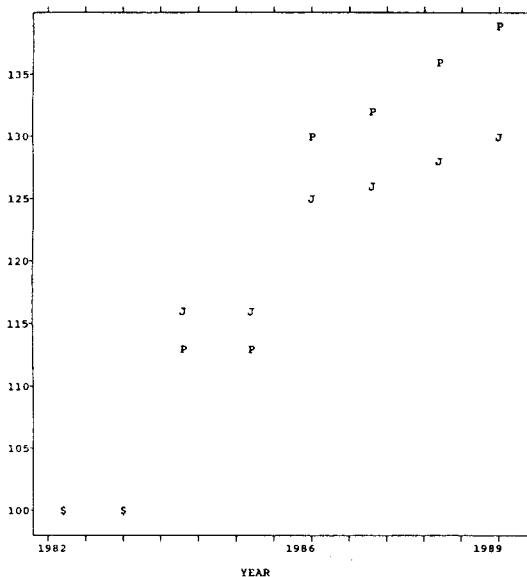


Fig. 4. Proportion of Korean Medical Papers Indexed in MEDLINE or in EMBASE Among Korean Medical Papers Published.

NOTE: The number of papers indexed in the *Korean Index Medicus* is used as the number of papers published (i.e., as a base number) in order to compute percentage.

M: MEDLINE
E: EMBASE

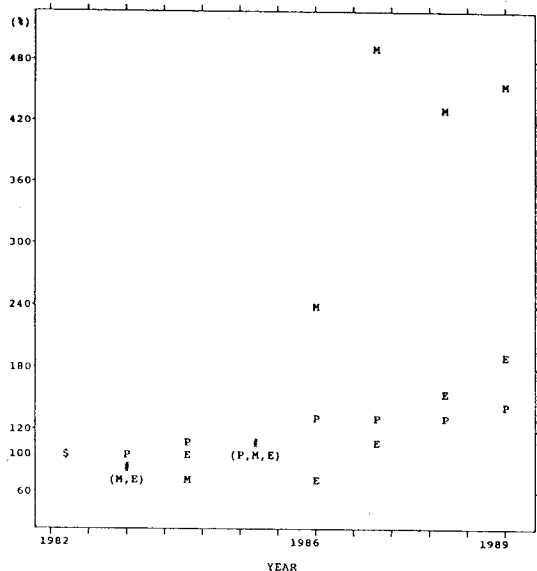


Fig. 5. Percentage Growth of Korean Medical Papers Indexed in the *Korean Index Medicus*, MEDLINE and EMBASE from 1982 to 1989.

P: Number of papers (indexed in the Korean Index Medicus)

M: MEDLINE

E: EMBASE

#: Multiple occurrence

\$: 1982 is used as a base year.

observation that a very low percentage of Korean papers are indexed in the two international medical databases are very significant. (Also, remember that none of the Korean medical journals is covered by the SCI database). First, it may be a judgement made internationally on the quality of medical papers published in Korean journals, manifesting the worries shared by many Korean scientists. Secondly, researchers will avoid publishing in Korean journals when they (think they) have good research papers, and they will try to publish the papers in foreign journals instead. It will, in turn, boost further the preconception that research works of importance are findable "elsewhere" (i.e., not in Korean journals)", and that papers in Korean

journals are "so and so" (i.e., not to bother to find and read if you want to do serious research or if you are doing research in the frontier). This is a critical threat to the existence of journal publication system in Korea.

However, there seemed to be a little hope. The proportion of the papers picked up either by the MEDLINE or by the EMBASE among Korean medical papers published⁴⁰⁾, has slowly increased in the later part of the 1980s (Figure 4). It was possible due to a series of efforts made by various parts involved in the medical

40) The number of papers indexed in the *Korean Index Medicus* is used as the number of papers published (i.e., as a base number) in order to compute the percentage.

journal publication to be integrated into the international communication network by improving the status of Korean medical papers. Decisively many new English-language journals began or transformed from Korean-language journals after 1984. And certainly, two of these journals made into the MEDLINE database immediately, contributing to a significant increase in the number of Korean medical papers indexed in the database from 1986 (Figure 5).

These internationalization efforts were driven by the desire and the anticipation to improve quality of research papers produced from Korea. The growth in the potential research manpower and the subsequent expansion in research outputs incurred by the development in the medical education system and in the medical specialist system, naturally asked for these improvement in the status of publication of Korean medical papers. Therefore, the mid-1980s was a turning point of Korean medical publication: the reservoir of the research potential (i.e., quantity) is finally asking for the quality.

Suggestions for Further Research

So far, the papers published in Korean medical journals are reviewed. However, if there certainly was the internationalization movement of Korean medical papers as a means to upgrade the quality of research done in Korea, then it is believed that ambitious researchers might have found their ways to publish important papers in international non-Korean journals. Publishing in such journals is a more active way of distributing one's research findings internationally.

The medical papers published in international non-Korean journals (called mainstream papers hereafter) will be different from papers in Korean medical journals in several aspects. They are presumed to be of better quality. It is be-

cause a quality judgement could have been made by authors themselves when they choose a place to publish a research paper. It is also because a paper should have survived a very tough competitions, beyond the political reach of Korean medical researchers, to get into the international journals. Besides, the mainstream papers are in better position to be used internationally and domestically.

Therefore, it is of interest to study the characteristics of Korean mainstream medical papers. A thorough investigation will suggest ways to further improve the status (or quality) of Korean medical papers. It is clearly pointed out throughout this paper that the 1980s has been an important period in the development of Korean medical research publication. Naturally, a study to investigate the characteristics of medical papers published in mainstream journals by Korean researchers during the 1980s is necessary. The assumption is that the Korean mainstream papers are different from other Korean medical papers, and that if we understand the whereabouts of those mainstream papers, then we may find clues to improve Korean medical research to compete at international level. Most of all, it is necessary to study Korean mainstream medical papers, because there has not been any study done so far which clarifies to what extent such papers are published, where they are published and whether they are used (i.e., cited), etc.

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- 1990~1991 *Haknyundo Uikwa Daehak Gyoyouk Hyunwhang* [Yearbook of Medical College Education for the Academic Year 1990~1991]. Seoul: Hanguk Uikwa Daehkajang Hyopuihoe [Korean Association for Deans of Medical colleges], 1991.
- '93 *Whahak-kwa Pyungga Injung Kijun* [Criterion and Basis of the Nationwide Evaluation of University Chemistry Departments: 1993]. Jaryo je92-7-96ho [Research materials no. 92-7-96]. Seoul: Hankuk Dahak Kyouk Hyopui-hoe [Korean Council for the University Education], 1992.

APPENDIX

한국 의학 학술지

List of scholarly medical journals currently published in Korea

| | | | | | |
|--|-----|------|--|----|------|
| 가정의 (대한 가정의학회) ^a Journal of the Korean Academy of Family Medicine | M | 1980 | 대한 내과학회지 (대한 내과학회) ^{CA, BA} Korean Journal of Internal Medicine | M | 1949 |
| 가톨릭대학 의학부 논문집 (가톨릭대학 대학원) ^{BA} Journal of Catholic Medical College | Q | 1957 | 대한 내분비학회지(대한 내분비학회) Journal of the Korean Society of Endocrinology | SA | 1986 |
| 감염 (대한 감염학회) ^{CA} Korean Journal of Infectious Diseases | Q | 1969 | 대한 내장항문병학회지(대한 내장항문병학회) Journal of the Korean Colo-Proctological Society | A | 1985 |
| 결핵 및 호흡기 질환 (대한 결핵협회) ^{FM, CA, BA} Tuberculosis and Respiratory Diseases | Q | 1954 | 대한 두경부 종양학회지(대한 두경부 종양학회) Korean Journal of Head and Neck Oncology | A | 1985 |
| 경북의대지 (경북대학교 의과대학) ^{BA} Kyungpook University Medical Journal | Q | 1958 | 대한 마취과학회지(대한 마취과학회) Journal of the Korean Society of Anesthesiologist | BM | 1968 |
| 경희의대 논문집 (경희대학교 의과대학) Kyung Hee University Medical Journal | A | 1976 | 대한 물리치료학회지(대한 물리치료학회) Korean Journal of Physical Therapy | A | 1977 |
| 경희의학 (경희대학교 경희의료원) Journal of the Kyung Hee University Medical Center | A | 1985 | 대한 면역학회지(대한 면역학회) Korean Journal of Immunology | A | 1979 |
| 계명대의대 논문집 (계명대의대 의과대학연구소) Keimyung University Medical Journal | SA | 1982 | 대한 맥관외과학회지(대한 맥관외과학회) Journal of the Korean Vascular Surgery Society | A | 1985 |
| 고려대학교 의과대학 논문집 ^{FM, CA, BA} (고려대학교 의과대학) Korea University Medical Journal | 3/Y | 1964 | 대한 미생물학회지 (대한 미생물학회) ^{FM, CA, BA} Journal of the the Korean Society for Microbiology | Q | 1958 |
| 고신의대 논문집 (고신의료원 고신대학 의학부) Journal of the Kosin Medical College | A | 1985 | 대한 바이러스학회지(대한 바이러스학회) Journal of the Korean Society of Virology | A | 1971 |
| 교통의학 (대한교통의학협회) Journal of Transportation Medicine | SA | 1964 | 대한 방사선의학회지(대한 방사선의학회) ^{CA} Journal of the Korean Radiologist Society | BM | 1964 |
| 고의 (고려 의료재단) Journal of the Korea General Hospital | A | 1977 | 대한 법의학회지(대한 법의학회) Korean Journal of Legal Medicine | SA | 1977 |
| 국립보건원보 (국립보건원) Report of the National Institute of Health | A | 1964 | 대한 병리학회지(대한 병리학회) ^{CA} Korean Journal of Pathology | Q | 1967 |
| 기생충학 잡지 (대한 기생충학회) ^{FM, CA, BA} Korean Journal of Parasitology | Q | 1963 | 대한 불임학회지(대한 불임학회) Korean Journal of the Fertility and Sterility Society | SA | 1974 |
| 나학회지 (대한 나학회) Korean Leprosy Bulletin | A | 1960 | 대한 비뇨기과학회지(대한 비뇨기과학회) ^{CA} Korean Journal of Urology | BM | 1960 |
| 당뇨병 (대한 당뇨병학회) Journal of the Korean Diabetic Association | SA | 1972 | 대한 산부인과학회지(대한 산부인과학회) Korean Journal of Obstetrics and Gynecology | M | 1958 |
| 대한 남성과학회지(연세의대 비뇨기과학교실) Journal of the Korean Andrological Society | SA | 1982 | 대한 산업의학회지(대한 산업의학회) Korean Journal of Occupational Medicine | SA | 1989 |
| 대한 구급의학회지(대한 구급의학회) Korean Journal of Critical Care Medicine | SA | 1986 | 대한 생리학회지(대한 생리학회) ^{FM, CA} Korean Journal of Physiology | SA | 1967 |
| 대한 군진의학 학술지 (대한 군진의학협회) Journal of the Korean Military Medical Association | A | 1961 | 대한 성형외과학회지(대한 성형학회) Journal of the Korean Society of Plastic and Reconstructive Surgery | Q | 1974 |
| | | | 대한 세포병리학회지(대한 세포병리학회) Korean Journal of Cytopathology | SA | 1990 |

Continued

| | | | | | |
|--|----|------|---|-----|------|
| 대한 소화기 내시경학회 잡지 (대한 소화기 내시경학회) | SA | 1981 | 대한 치료 방사선과학회지 (대한 치료 방사선과학회) | SA | 1983 |
| Korean Journal of Gastrointestinal Endoscopy | | | Journal of the Korean Society of Therapeutic Radiology | | |
| 대한 소화기병학회 잡지(대한 소화기병학회) | Q | 1968 | 대한 통증학회지(대한 통증학회) | SA | 1988 |
| Korean Journal of Gastroenterology | | | Journal of the Korean Pain Society | | |
| 대한 수혈학회지(대한 수혈학회) | SA | 1990 | 대한 피부과학회지(대한 피부과학회) ^{EM, CA, BA} | BM | 1960 |
| Korean Journal of Blood Transfusion | | | Korean Journal of Dermatology | | |
| 대한 스포츠 의학회지(대한 스포츠 의학회) | SA | 1983 | 대한 해부학회지(대한 해부학회) | SA | 1968 |
| Korean Journal of Sports Medicine | | | Korean Journal of Anatomy | | |
| 대한 슬관절학회지(대한 슬관절학회) | A | 1987 | 대한 핵의학회지(대한 핵의학회) ^A | SA | 1967 |
| Journal of the Korean Knee Society | | | Korean Journal of Nuclear Medicine | | |
| 대한 신경과학회지(대한 신경과학회) | SA | 1983 | 대한 혈액학회지(대한 혈액학회) ^A | SA | 1966 |
| Journal of the Korean Neurological Association | | | Korean Journal of Hematology | | |
| 대한 신경외과학회지(대한 신경외과학회) | BM | 1972 | 대한 화학요법학회지(대한 화학요법학회) | SA | 1983 |
| Journal of the Korean Neurosurgical Society | | | Journal of the Korean Society for Chemotherapy | | |
| 대한 신장학회지(대한 신장학회) | SA | 1982 | 대한 흉부외과학회지(대한 흉부외과학회) | M | 1968 |
| Korean Journal of Nephrology | | | Korean Journal of Thoracic and cardiovascular Surgery | | |
| 대한 안과학회지(대한 안과학회) ^A | BM | 1958 | 동아의대 학술지(동아의대) | SA | 1989 |
| Journal of the Korean Ophthalmological Society | | | Dong-A Journal of Medicine | | |
| 대한 외상학회지(대한 외상학회) ^B | A | 1988 | 보건학논집(서울대학교 보건대학원) | A | 1964 |
| Journal of the Korean Association of Traumatology | | | Korean Journal of Public Health | | |
| 대한 음성언어학회지(대한 음성언어학회) | A | 1989 | 부산 소아과(대한소아과학회 부산지회) | A | 1988 |
| Journal of the Korean Society of Logopedics and Phoniatrics | | | Journal of the Pusan Association of Pediatrics | | |
| 대한 의학협회지(대한 의학협회) ^{EM, CA} | M | 1948 | 부산 외과학회지(부산시 외과의사회) | A | 1985 |
| Journal of the Korean Medical Association | | | Journal of the Pusan Surgical Society | | |
| 대한 이비인후과학회지(대한 이비인후과학회) | BM | 1958 | 부산의대 학술지(부산의대) ^A | 3/Y | 1959 |
| Journal of the Korean Otolaryngological Society | | | Journal of the Pusan Medical College | | |
| 대한 이식학회지(대한 이식학회) ^B | A | 1987 | 서울의대 정신의학 (서울대학교 병원 정신과학교실) | Q | 1976 |
| Journal of the Korean Transplantation Society | | | Seoul Journal of Psychiatry | | |
| 대한 임상병리학회지(대한 임상병리학회) | SA | 1981 | 세종의학(세종의학 연구소) | SA | 1984 |
| Korean Journal of Clinical Pathology | | | Sejong Medical Journal | | |
| 대한 재활의학회지(대한 재활의학회) | SA | 1977 | 소아과(대한 소아과학회) | M | 1958 |
| Journal of the Korean Academy of Rehabilitation Medicine | | | Journal of the Korean Pediatric Association | | |
| 대한 정신약물학회지(대한 정신약물학회) | SA | 1990 | 순천향대학 논문집(순천향대학) | SA | 1978 |
| Korean Journal Psychopharmacology | | | Journal of the Soonchunhyang University | | |
| 대한 정형외과학회지(대한 정형외과학회) | BM | 1966 | 순환기(대한 순환기학회) | Q | 1971 |
| Journal of the Korean Orthopaedic Association | | | Korean Circulation Journal | | |
| 대한 초음파의학회지 (대한 초음파의학회) | A | 1982 | 신경정신의학(대한 신경정신의학회) | BM | 1962 |
| Journal of the Korean Society of Medical Ultrasound | | | Journal of the Korean Neuropsychiatric Association | | |
| 대한 주산학회지(대한 주산학회) | SA | 1990 | 알레르기(대한 알레르기학회) | SA | 1981 |
| Korean Journal of Perinatology | | | Allergy | | |
| | | | 연세의대 학위 논문집(연세대학교 의과대학) | SA | 1988 |
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| 영남의대 학술지(영남의대) Yeungnam University Medical Journal | A | 1984 | 한국 역학회지 (한국 역학회) Korean Journal of Epidemiology | SA | 1979 |
| 예방의학회지(대한 예방의학회지회) ^{CA} Korean Journal of Preventive Medicine | A | 1968 | 한국 임상 성학회지 (연세의대 정신과학 교실) Journal of the Korean Society for Human Sexuality | A | 1989 |
| 외과학회지(대한 외과학회) ^A Journal of the Korean Surgical Society | M | 1959 | 한국 의과학 (중앙대 한국 의학연구소) ^{CA} Official Journal of the Research Institute of Medical Science of Korea | Q | 1969 |
| 원광 의과학(원광대학교 의과학연구소) Journal of the Won Kwang Medical Science | A | 1985 | 한국의 산업의학 (가톨릭대학 산업의학센터 산업의학연구소) Korean Journal of Occupational Health | Q | 1962 |
| 을지의보(을지병원) Eul Ji Medical Journal | SA | 1978 | 한국 의학교육 (한국 의학교육학회) Korean Journal of Medical Education | SA | 1989 |
| 이화의대지(이화의대) Ewha Medical Journal | Q | 1978 | 한국 환경성 돌연변이 발암학회지 ^{BA} (한국 환경성 돌연변이 발암학회) Environmental Mutagens & Carcinogens | SA | 1981 |
| 인간과학(한림대학교 의료원) Human Science | M | 1977 | 한양의대 학술지 (한양의대) Journal of Hanyang Medical College | SA | 1981 |
| 인구보건논집(한국 보건사회 연구원) Journal of Population and Health Studies | SA | 1981 | 한일병원 임상잡지 (한일병원) Medical Journal of the Han-Il Hospital | A | 1970 |
| 인제의학(백 중앙의료원) Inje Medical Journal | Q | 1980 | 항공의학 (공군 항공의학 연구소) Journal of Aerospace Medicine | SA | 1953 |
| 인천병원 논문집(지방공사 인천병원) Journal of the Public Corporation Incheon Hospital | SA | 1985 | ENGLISH LANGUAGE JOURNALS | | |
| 일신기독병원 논문집 (일신기독병원) Journal of the Il Sin Christian Hospital | A | 1986 | Annals of Dermatology ^{EM} (대한 피부과학회) | A | 1989 |
| 임상병리와 정도관리 (서울대학교 병원 임상병리과) Journal of Clinical Pathology and Quality Control | SA | 1980 | Bulletin of the Clincial Research Institute (가톨릭 중앙 의료원) | A | 1973 |
| 적십자병원지 (서울 적십자병원) Medical Journal of the Red Cross Hospital | SA | 1974 | Chonnam Journal of Medical Science (1988) (전남의대 의과학연구소) | SA | 1964 |
| 전북의대 논문집 (전북의대 의학연구소) Jeonbug University Medical Journal | Q | 1977 | Journal of the Korean Cancer Research Association (1984) ^{EM, CA} (대한 암학회) | SA | 1968 |
| 조선의대 논문집 (조선의대 의학연구소) Medical Journal of the Chosun University | A | 1974 | Journal of the Korean Medical Science ^{MD, FM, BA} (대한 의학회) | 3/Y | 1986 |
| 중앙의대지 (중앙의대 의과학연구소) ^{CA, BA} Chung-Ang Journal of Medicine | Q | 1975 | Journal of the Korean Orthopaedic Association (Eng. ed.) (대한 정형외과학회) | A | 1986 |
| 중앙의학 (중앙의학사) ^{CA, BA} Korean Central Journal of Medicine | M | 1961 | Korean Journal of Biochemistry (1975) ^{FM, CA, BA} (대한 생화학회) | SA | 1964 |
| 체질인류학회지 (대한 체질인류학회) Korean Journal of Physical Anthropology | A | 1988 | Korean Journal of Internal Medicine (Eng. ed.) ^{BA} (대한 내과학회) | SA | 1986 |
| 최신의학 (최신의학사) ^{BA} New Medical Journal | M | 1958 | | | |
| 충남의대 잡지 (충남의대 지역사회 연구소) Chungnam Medical Journal | SA | 1974 | | | |
| 침례병원 학술지 (왈레스 기념 침례병원) Medical Journal of the Baptist Hospital | A | 1984 | | | |
| 한국 보건교육학회지 (한국 보건교육학회) ^B Journal of the Korean Society for Health Education | A | 1983 | | | |

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| Korean Journal of Ophthalmology ^{MED} (대한 안과학회) | A | 1987 | Seoul Journal of Medicine (1985) ^{EM, CA, BA} 서울의대 학술지 (서울의대) | Q | 1960 |
| Korean Journal of Pharmacology (1985) ^{EM**, CA, BA} (대한 약리학회) | SA | 1965 | Yonsei Medical Journal ^{JMED, EM**, CA, BA} (연세의대) | Q | 1960 |
| Korean Journal of Toxicology (대한 독성학회) | A | 1985 | Yonsei Reports on Tropical Medicine ^{EM, CA, BA} (연세대 열대의학연구소) | A | 1970 |

COMPILED FROM: Sung-ha Lee, "Statistical Analysis on Korean Bio-medical Journals." *Bulletin of the Korean Medical Library Association* 15, nos. 1-2(1988): 5-14; Bongja Yoon, "An Analysis of the Article Format for Korean Medical Journals." *Bulletin of the Korean Medical Library Association* 17, nos. 1-2 (1990): 17-26; Je Geun Chi and Bongja Yoon, *How to Write Medical Papers and Use Literature Retrieval System*(Seoul: Seoul National University Press, 1992), pp. 204-11, 269-84.

NOTE: These 111 Korean-language and 14 English-language medical journals are core scholarly journals selected by the *Korean Index Medicus* (except four titles marked*). Dentistry and Nursing journals are not covered by the Index. By coincidence, these two fields do not fall into the territory of this study. The year a Korean-language journal was changed into an English-language journal is provided in () after the English-language journal title.

NOTE: None of the Korean medical titles are indexed in SCI.

^{MED}Indexed in Index Medicus/MEDLINE. (Source: *The List of journals indexed in Index Medicus-1989*. Bethesda, MD: NLM, 1990; *the List of Serials Indexed for Online Users-1990*. Bethesda, MD: NLM, 1990.)

^{EM}Abstracted in Excerpta Medica/EMBASE. (Source: *List of Journals Abstracted: 1990*. Amsterdam: Excerpta Medica, 1989.) ** after the b indicates all original articles and significant contributions of the journal are normally included in the database. Articles of journals not marked are screened selectively (not all articles are normally included).

^{CA}Indexed in Chemical Abstracts. (Source: *Chemical Abstracts Service Source Index: 1907-1989 Cumulative*. Columbus, Ohio: CAS, c1990.)

^{BA}Indexed in Biological Abstracts. (Source: *Serial Sources for BIOSIS Previews Database: 1989*. Philadelphia: BioSciences Information Service, 1990.)

*Not indexed in the *Korean Index Medicus*.