A survey of the working status of family medicine physicians in clinics and hospitals in Korea

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Research article

Keywords: occupation/environmental medicine, continuity of care, practice management, primary care, public health, quality of care

Posted Date: October 7th, 2019

DOI: <https://doi.org/10.21203/rs.2.15645/v1>

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Version of Record: A version of this preprint was published at BMC Family Practice on May 8th, 2020. See the published version at <https://doi.org/10.1186/s12875-020-01154-5>.

Abstract

Background In the approximately 35 years since family medicine was established in South Korea, family medicine physicians have sought to expand their expertise to cover clinical fields beyond primary medicine. This study examines their working status and compares the working conditions of family medicine physicians in clinics and hospitals in Korea.

Methods We conducted an online survey with 4,057 family medicine physicians in Korea in 2016. The results were analyzed using descriptive statistics.

Results Of the respondents, 572 doctors were working in clinics and 441 in hospitals. In the analysis of treatment pattern by doctors, the rate of chronic disease management was 84.7% in clinics and 93.4% in hospitals ($p < 0.001$), and the rate of diseases covered by national insurance was 74.8% in clinics and 76.9% in hospitals ($p = 0.005$). Among physicians younger than 40 years, the rate of chronic disease management and diseases covered by national insurance were 64.6% and 68.0% in clinics and 93.6% and 78.5% in hospitals, retrospectively.

Conclusions Family medicine physicians working in hospitals have higher rates of chronic disease management and diseases covered by national insurance. This discrepancy of treatment pattern became larger for doctors younger than 40 years. More in-depth studies of the treatment pattern and its tendencies between family medicine physicians in clinics and hospitals are needed in the future.

Background

The Korean Academy of Family Medicine was established in 1980. Family medicine was designated as the 23rd specialty board in Korea, and 8,024 family medicine specialists had been certified as of 2016 (1). Since then, the Family Medicine Society has been making efforts in various fields to be “the center of primary care in Korea” (1). However, as a result of the specialization and subdivision of western medicine, instability of the medical delivery system, and other political problems, family medicine specialists in Korea have expanded their practice to include not only comprehensive primary health care but also a variety of other fields, including disease prevention such as health check-up centers, clinics providing cosmetic medical services, anti-obesity clinics, and functional medicine in areas not covered by government insurance (2).

Specialists make up 75.9% of Korean doctors, and 92.6% of clinic doctors have diversity specialist boards (3–5). Because of competition with other clinics and the absence of insurance coverage ensuring continuity, comprehensiveness, and family care in the medical system, the function of primary medicine as a gatekeeper has been weakened. Furthermore, patients prefer to visit secondary and tertiary medical institutions as limitations to access to large hospitals are rare, which has brought about an unstable medical delivery system in Korea (6). Although about more than 35 years have passed since family medicine departments were established in Korea, there have been no reports about family medicine physicians’ working status and working conditions. This study examines the working status of family

medicine physicians and compares the working conditions of physicians working in clinics and hospitals in Korea.

Methods

Study population

A list of family medicine physicians was obtained through the databases of the Korean Academy of Family Medicine (3,141 persons) and the Korean Society of Family Medicine (1,622 persons) (Figure 1). Members' e-mail addresses and text message contact information were provided by the database holders after confidentiality was assured. This study was approved by the Myongji Hospital Institutional Review Board (MJH-16-097).

Questionnaire development and survey process

The questionnaire elicited the respondents' basic information, including age and sex, whether they were in clinical practice, their workplace (clinic, hospital, region, etc.), position in the medical institution (clinic: owner, paid, others; hospital: professor, resident, paid, others), education level, and board duration. Chronic disease management was assessed by the question, "Have you provided treatment of chronic disease such as diabetes and hypertension for patients?" (answered *yes* or *no*); diseases covered by national insurance by "Indicate the percentage of your patients covered by national health insurance"; and patient age groups by "What proportions of your patients are younger than 18, aged 19–64, and older than 65?" For working conditions, working days per week and working nights per week were asked, with the night shift deemed as starting from 18:30. Online surveys were conducted for about three months from August 15 to December 15, 2016. Participants were regularly e-mailed and sent text messages to encourage participation.

Data analysis

Descriptive statistical analyses were performed on the results of the survey. The mean value and standard deviation of the continuous variables and the median and standard deviation of the categorical variables were calculated. The statistical analysis of the two groups (working in clinics and hospitals) was conducted with Student's *t*-tests and chi-square tests. Statistical significance was defined as $p < 0.05$. SAS statistical software, version 9.4 (SAS Institute Inc., Cary, NC), was used in this study.

Results

Among the total 4,057 family specialists, 1,083 potential respondents answered for a response rate of 26.7%. Of these, 572 worked in clinics and 441 in hospitals (Figure 1). Table 1 shows the clinical

characteristics of the family medicine physicians working in clinics and hospitals. The mean age was higher in clinics than in hospitals (43.7 vs. 41.2 years old, $p < 0.001$, respectively), the proportion of women was lower in clinics than in hospitals, and the duration since board certification was longer in clinics than in hospitals (27.6 vs 38.6%, $p < 0.001$, 10.8 vs 8.6 years, $p < 0.001$, respectively). Regarding the classification of the medical institutions where doctors at hospitals worked, 16.6% worked at advanced general hospitals, 28.6% at general hospitals, 32.4% at geriatric hospitals, and 22.4% at hospitals. Figure 2 shows the distribution of family medicine physicians in Korea by employment status; doctors employed in and owning clinics made up 34.4% and, respectively, while among the doctors working in hospitals, 74.1% were paid doctors, 13.4% professors, 8.0% residents, and 4.6% others.

Table 2 shows the results for medical practice characteristics provided by family medicine physicians working in clinics and hospitals. First, the rate of chronic disease management was 84.7% in clinics and 93.4% in hospitals ($p < 0.001$). Among the physicians younger than 40 years old, the rate of chronic disease management was 64.6% in clinics and 93.6% in hospitals ($p < 0.001$), while among those 40 years old and older, the rate of chronic disease management was 93.6% in clinics and 92.7% in hospitals ($p = 0.31$). The rate of diseases covered by national insurance was 74.8% in clinics and 76.9% in hospitals ($p = 0.005$). Among the physicians younger than 40 years old, the rate of disease covered by national insurance was 68.0% in clinics and 78.5% in hospitals ($p < 0.001$), while among physicians 40 years old and older, the rate of disease covered by national insurance was 81.0% in clinics and 84.7% in hospitals ($p = 0.19$). Regarding patients' age groups, the percentages younger than 18, aged 19–64, and 65 and older were 14.5%, 54.8%, and 31.1% in clinics and 6.7%, 37.7%, and 55.6% in hospitals, respectively ($p < 0.001$).

Table 3 shows the results for the working conditions of family medicine physicians during the day and the night per week. Mean working days per week were 5.7 and 5.3 in clinics and hospitals, respectively ($p < 0.001$), and mean working nights per week were 3.0 and 0.8 in clinics and hospitals, respectively ($p < 0.001$). Supplementary figure 1 presents the distribution of working days per week. Family medicine physicians working days most commonly worked six days a week in clinics and five days a week in hospitals, while those working nights most commonly worked five days a week and second most commonly zero days in clinics, and zero days a week in hospitals.

Discussion

In this study, we found that family medicine physicians working in hospitals have higher rates of chronic disease management and higher rates of elderly patients than those working in clinics, and this discrepancy was greater in doctors younger than 40 years.

There are several possible reasons for the differences in medical treatment patterns of family medicine physicians between hospitals and clinics. Family medicine physicians in Korea have expanded to provide medical services not only for disease treatment but also health check-up centers, health promotion medical services, and new advanced medical technologies, which are classified as medical areas not

covered by national insurance (7). As the proportion of total medical expenses classified as procedures not covered by national insurance has increased steadily in Korea, this phenomenon has also extended to family medicine physicians' practice patterns (8,9). According to a report by the National Health Insurance Service (NHIS), medical expenses not covered by national insurance doubled during 2009 to 2014, and the proportion of noncovered health insurance expenses gradually increased from 13.4% in 2006 to 17.1% in 2014 (10). Moreover, the number of clinicians practicing only in noncovered medical areas in general medicine, plastic surgery, dentistry, and other fields has doubled in the last five years (9). It is recognized that the appearance-oriented culture that emphasizes measures such as anti-obesity treatments is one of the factors contributing to the demand for the various cosmetic procedures, including skin care treatments, plastic surgery, and anti-aging treatments (11,12). In this survey, 44.8% of family medicine physicians answered that the reasons for choosing a noncovered medical area are economic, 20.1% personal interest, and 10.4% to achieve independence from government restrictions on the right to medical treatment (Supplementary Table 1). There is a similar report concerning operating a clinic for economic reasons and the considerations affecting the choice of treatment area from the annual report of Korean Medical Association, which means that this phenomenon extends beyond family medicine physicians to other specialists who operate clinics (4).

Another reason for the changing medical practice patterns in young family medicine doctors is the instability of the medical delivery system, which has reduced the influence of primary medical institutions in the medical market share (13). The concept of primary care with a gatekeeper has not been established yet, and there are still many challenges to address before the possibility of each patient having his or her own primary physician becomes a reality in the Korean medical system (14,15). The number of family physicians who are newly entering the medical market has increased and clinicians, who are more vulnerable to the deterioration of the medical delivery system, may have been careful about incurring economic problems when choosing their primary care area, which is an issue more pressing for family medicine physicians working in clinics than in hospitals (13). For these reasons, we may assume that the trends in the medical treatment provided by young doctors are more likely to result in providing health promotion medical services than chronic disease management. More in-depth study of the differences in the tendencies of family medicine doctors working in clinics and hospitals are needed in the future.

This study also found that the number of days spent working days and nights were significantly higher for doctors working in clinics than in hospitals. This might be related to the operating hours of clinics and hospitals, and probably one of the reasons is that clinics usually open later and close later than hospitals. In addition, this factor is strongly affected by the medical treatment area and practice pattern in hospitals; for example, if a family medicine department in a hospital is oriented to outpatient medical care and health checkup centers, then there is no need for inpatient care and night duty work. In contrast, if a hospital is centered on hospice-palliative inpatient care, this requires more night duty work by family medicine doctors. A more detailed evaluation of working hours should be performed in the future for a more detailed assessment of doctors' work environments.

The limitations of this study are as follows. First, the questionnaire survey is limited by subjective factors of respondents, possibly leading to underreporting or overreporting. Second, the study is limited by the lack of information on population samples covering the whole range of family medicine specialists and the standardization of the participants in terms of sex, age, and regional area. Nevertheless, this study is the first survey of family medicine specialists, as far as we know, that helps identify the medical practices of family medicine doctors and confirms the impact of decisions made during training on the medical care they will provide.

More than 35 years have passed since family medicine has been recognized as a specialized department in Korea, and steady efforts have been made to implement primary care medicine based on initial medical contacts, accessibility, comprehensiveness, coordination, sustainability, and accountability (14). However, there has been a lack of political support from the government to establish the proper function of primary medicine, and the position of the primary clinics has been gradually reduced in a system in which they compete with hospitals. The first step to prepare for the future is to identify the current status of family medicine specialists: What they are doing and thinking in the competitive medical situation in Korea. With a rapidly aging society, the importance of chronic disease management and comprehensive and continuous medical care is emphasized; family medicine must constitute the center of primary care to help patients navigate the challenging medical environment. This study is expected to be useful in establishing a clear direction for residency training, education programs, and for maintaining and developing the identity of family medicine. Large-scale follow-up studies using big data to facilitate comparison with other medical departments will be needed in the future.

Declarations

Declarations / Acknowledgements

We would like to express our gratitude to the members of the family medicine department who cooperated with researchers and participated in the questionnaire. This study was supported by the Korean Academy of Family Medicine in 2016.

Conflict of interest

None

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Tables

Table 1. Clinical characteristics of the family medicine physicians working in clinics and hospitals (2016).

Variables	Clinic <i>N</i> = 572	Hospital <i>N</i> = 441	* <i>p</i> value
Age (years)	43.7±8.7	41.2±8.8	< 0.001
Women (number/%)	158(27.6)	170(38.6)	< 0.001
Board duration (year)	10.8±8.0	8.6±7.9	< 0.001
Education level (number/%)			< 0.001
Bachelor	408(71.5)	227(51.9)	
Master	130(22.8)	128(29.3)	
Doctor	33(5.8)	82(18.8)	
Region of medical institution (number/%)			0.08
Large city	338(59.3)	230(52.9)	
Small-medium city	184(32.6)	176(40.5)	
Rural area	42(7.4)	29(6.7)	
Classification of medical institution (number/%)			< 0.001
Advanced general hospital		73(16.6)	
General hospital		126(28.6)	
Geriatric hospital		143(32.4)	
Hospital		99(22.4)	
Clinic	572(100)		

All data are represented as mean±standard deviation or number(%).

**p* value from Student's *t*-test or chi-square test.

Table 2. Medical characteristics provided by family medicine physicians working in clinics and hospitals(2016).

		Clinic <i>N</i> = 572	Hospital <i>N</i> = 441	* <i>p</i> value
Chronic disease management		84.7%	93.4%	< 0.001
Younger than 40 years old		64.6%	93.6%	< 0.001
40 years old or older		93.6%	92.7%	0.31
Disease covered by national insurance		74.8%	76.9%	0.01
Younger than 40 years old		68.0%	78.5%	< 0.001
40 years old or older		81.0%	84.7%	0.19
Patients' age group (years)	< 18	14.5	6.7	< 0.001
	19-64	54.8	37.7	
	≥ 65	31.1	55.6	

**p* value from Student's *t*-test or chi-square test.

Table 3. Working conditions of family medicine physicians, days and nights per week (2016).

Mean working days (day/week)	Clinic	Hospital	<i>p</i> value*
Day	5.7±0.8	5.3±0.7	< 0.001
Night	3.0±2.3	0.8±1.3	< 0.001

* Student's *t*-test between clinic and hospital workers; Night shift starts from 18:30.

Figures

Figure 1. Flow chart of study population of the present study (2016).

Figure 1

Flow chart of study population of the present study (2016).

Figure 2

Distribution of positions of family medicine physicians in Korea 2A. Clinic (N = 572) 2B. Hospital (N = 441)

Supplementary Files

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