

Knowledge of, Attitudes Toward, and Experience of Complementary and Alternative Medicine in Western Medicine— and Oriental Medicine—Trained Physicians in Korea

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Complementary and alternative medicine (CAM), which usually refers to a large range of therapies outside mainstream Western medicine, has grown in worldwide popularity in the past 10 years.^{1–5} One Korean study found that 29% of adults who perceived themselves as ill sought CAM therapies in 1 year.⁶ In total, 231 different CAM therapies in use were identified, and about half of CAM users indicated that they would recommend CAM to others. The study also reported that in Korea, out-of-pocket expenditures for CAM were 40% of those for Western medicine. This prevalence of CAM use raised questions about the characteristics of CAM providers in Korea.

Over the past decade, Western physicians in many non-Asian countries have provided CAM therapies in an office setting.^{4,7–17} Office physicians' opinions about and behaviors regarding CAM have been examined in several surveys in North America,^{12,13,18,19} many European countries,^{4,7,8,15–17} Australia,^{20,21} and Israel.⁹ These studies revealed that physicians show considerable interest in CAM. Compared with hospital physicians, office physicians (e.g., general practitioners) may more frequently refer patients for alternative treatment.¹¹ In addition, many subgroups of CAM providers (e.g., chiropractors) exist among Western physicians.²² Hawk et al.²³ examined chiropractors' use of alternative practices, including spinal manipulation, and found that more than half of US chiropractors were employing acupressure, massage, mineral supplements, and herbs in their practices. However, few studies have compared use of CAM among providers who follow Western medical practices with those who follow Oriental practices or have targeted physicians in Asian countries known to have adequate personnel for CAM.

Objectives. We compared knowledge of, attitudes toward, and experience with complementary and alternative medicine (CAM) among Western medicine-trained doctors (WMDs) and Oriental medicine-trained doctors (OMDs).

Methods. In Korea, 502 WMDs and 500 OMDs were interviewed with a structured questionnaire.

Results. OMDs held more favorable attitudes toward CAM than did WMDs. OMDs possessed a deeper understanding of and greater experience with CAM. OMDs more readily endorsed health beliefs congruent with CAM.

Conclusions. In the future, CAM can be more readily used by OMDs than by WMDs. Because evidence for the effectiveness of CAM remains sparse, more research is needed for the prudent use of CAM in Korea. An education and training system for potential CAM providers remains to be developed. (*Am J Public Health.* 2002;92:1994–2000)

Korea has 2 different types of doctors: Western medicine-trained doctors (WMDs) and Oriental medicine-trained doctors (OMDs). WMDs and OMDs were educated at medical schools that espouse either Western or Oriental medicine, respectively. Division of the 2 groups is not by nationality or country of education, although relatively few Korean doctors were born or educated outside Korea. As of 1999, about 11 000 OMDs—about 16% of licensed medical doctors—had graduated from 11 Oriental medical schools.²⁴ Physicians in both groups complete 6-year medical school programs and pass a national license examination before starting to practice. Most OMDs (85%) practice in an office setting,²⁴ providing mainly acupuncture, Chinese herbal medicine, moxibustion (applying heat to certain areas of the body using a stick-shaped material called moxa-wool), and cupping glass therapy (a technique that brings blood to the skin surface with heat and vacuum pressure).

In addition to Oriental medicine, other alternative therapies exist in Korea, including chiropractic, homeopathic, iridologic, Qi Gong, and taping therapies. These alternative therapies are considered neither Western nor

Oriental medicine and, in contrast to Oriental medicine, are not regulated by any Korean legal system. Thus, no laws restrict use of these alternative therapies by either WMDs or OMDs. Consequently, physicians' opinions and knowledge about alternative medicine may influence patients' use of CAM in Korea. The purpose of this study was to compare WMDs' and OMDs' knowledge of, attitudes toward, and practice experience with CAM in an office setting.

METHODS

Study Subjects

Study subjects were WMDs and OMDs practicing in Korean cities. Rural physicians were excluded because of their low numbers (7.1% of WMDs, 7.9% of OMDs)^{25,26} and the impracticality of conducting face-to-face interviews. Among WMDs, radiologists, clinical pathologists, and anesthesiologists rarely see patients independently and were excluded as study subjects. Study subjects were selected through a proportionate quota and systematic sampling method. On the basis of registration data from the Korean Medical Association and the Association of Korean Oriental Medi-

cine, a specific number of subjects were allocated to each metropolis and province. Thirty of 69 districts in 6 metropolises and 24 of 73 small to medium-sized cities in 8 provinces were randomly selected. Names of physicians' clinics were then drawn randomly from lists provided by district health authorities. Thirty-nine laypersons were recruited as interviewers and trained in a workshop and in 2 pilot interviews. After initial phone contact, face-to-face interviews were conducted at the clinics. If an interview with a selected subject was rejected or not completed, the next closest clinic was substituted to save time and effort. It is believed that this substitution did not create sampling bias, because adjacently-located physicians were not expected to have either positive or negative opinions about CAM. A total of 1002 of 1679 physicians (59.7%) visited by interviewers—502 of 830 WMDs (60.5%) and 500 of 849 OMDs (58.9%)—completed the interview.

Data Collection

This study categorized medical practice into 3 groups: Western, Oriental, and CAM. For this study, CAM was defined as “interventions generally not available in Western or Oriental hospitals and clinics, including folk medicine, chiropractic, Qi Gong, spiritual healing, and aromatherapy.” In widely accepted definitions,^{1,27} some therapies, such as acupuncture, Chinese herbal medicine, moxibustion, and cupping glass, could be considered to be types of CAM. However, these therapies were not included in the definition of CAM for this study; instead, they were categorized as Oriental medical practice, because they are in the curriculum of Korean Oriental medical schools and are thus practiced by most OMDs. Furthermore, acupuncture and cupping glass therapy are covered by National Health Insurance.²⁴ Thus, it was appropriate to identify those therapies as Oriental medical practice distinct from other types of CAM therapies.

Data were collected with a structured questionnaire finalized after a pilot study. Sociodemographic variables included age, sex, location of clinic, religion, and length of practice. WMDs were asked if there were any OMDs among their parents, siblings, or spouses, and OMDs were asked if there were any WMDs

in their families. Subjects were also asked whether they would be willing to learn CAM and to conduct research on its efficacy if they received research grants.

In addition, the questionnaire inquired about subjects' knowledge, attitudes, and beliefs regarding CAM. Subjects indicated knowledge about 10 CAM therapies: Alexander therapy, aromatherapy, Ayurveda, chelation therapy, chiropractic, Gerson's diet therapy, high colonic/enema therapy, homeopathy, iridology, and taping therapy. Respondents were asked to choose 1 of 3 possible responses for each therapy: 0=never heard of the therapy, 1=heard of the therapy, and 2=knew the principles. Attitudes toward CAM and beliefs in health concepts were assessed on a 4-item scale: 0=strongly disagree, 1=disagree, 2=agree, 3=strongly agree.

The questionnaire also examined CAM practice and referral patterns. Both WMDs and OMDs were asked if they had ever practiced chiropractic, homeopathy, or massage therapy or referred their patients to such a practitioner. WMDs were asked about their experience with 3 other Oriental medical practices: acupuncture, Chinese herbal medicine, and herb therapy. OMDs were asked about their experience with iridology, Qi Gong, and taping therapy. In addition, physicians' beliefs in the efficacy of these therapies were assessed on a 4-item scale: 0=not effective at all, 1=rarely effective, 2=moderately effective, and 3=very effective.

ANALYSIS

We computed the overall knowledge score (0–20 range for both doctors) by adding the scores of the 10 CAM items. Cronbach α coefficients were 0.83 in WMDs and 0.81 in OMDs, indicating a high degree of internal reliability. We calculated the overall attitudinal score (0–11 range for WMDs, 0–12 range for OMDs) by adding scores of 4 attitude items after reverse scoring of the first and second questions. Cronbach α coefficients were 0.62 in WMDs and 0.63 in OMDs. High scores represent rich knowledge of and favorable attitudes toward CAM. We did not create a summary score about beliefs in health concepts because each item in the

questionnaire represented a different aspect of health concepts. For this study's purposes, we defined a “CAM user” as one who had experience with at least 1 of 3 therapies: chiropractic, homeopathy, or massage therapy. We calculated overall practice rates of these CAM therapies for both WMDs and OMDs.

We conducted descriptive analyses to compare WMDs and OMDs on sociodemographic factors and to determine whether any physicians in the other medical domain were in their families. We used Chi-square tests to compare both groups as to their willingness to learn CAM and conduct research on CAM's efficacy. We also compared knowledge of, attitudes toward, and beliefs about CAM using Student *t* tests. We performed all statistical analyses with SAS, Version 6 ($P=.05$).²⁸

RESULTS

Characteristics of Study Subjects

We compared demographic characteristics of subjects with each other and with national data (Table 1). Both WMDs and OMDs were younger than physicians in the national data. The mean age of WMDs was significantly greater than that of OMDs (43.6 vs 39.9 years). The proportions of male and female physicians among WMDs and OMDs were similar to the proportions in the national data; however, the number of female practitioners among WMDs was significantly higher than the number of female practitioners among OMDs. The proportions of both types of physicians in metropolitan areas were similar to such proportions in the national data. The average length of practice of WMDs was significantly greater than that of OMDs (16.8 vs 12.5 years). In addition, subjects' age and length of practice correlated highly among both WMDs and OMDs (Pearson correlation coefficients=.93 and .84, respectively; $P<.001$). Whereas a significantly higher proportion of Buddhists was found among OMDs, WMDs had a significantly higher proportion of Catholics.

Willingness to Learn and Research CAM

More OMDs (70.4%) than WMDs (35.9%) reported a willingness to learn CAM. If awarded research grants, a significantly greater proportion of OMDs (65.7%) than of

TABLE 1—Demographic Characteristics of Western Medicine–Trained Doctors (n = 502) and Oriental Medicine–Trained Doctors (n = 500) Compared With National Data

Characteristics	WMDs, %		OMDs, %	
	This Study	National Data ^a	This Study	National Data ^b
Age, y				
≤ 39	41.4	28.7	62.8	60.7
40–49	36.0	38.4	21.8	18.2
≥ 50	22.6	32.9	15.4	21.1
Sex				
Male	88.2	87.9	92.8	90.0
Female	11.8	12.1	7.2	10.0
Location of clinic				
Metropolis	55.2	53.9	58.0	58.5
Small to medium-sized city	44.8	46.1	42.0	41.5
Length of practice after license, y				
0–9	15.6	...	47.2	...
10–19	53.2	...	36.6	...
≥ 20	31.2	...	16.2	...
Religion				
Buddhist	10.6	...	25.2	...
Protestant	28.9	...	23.8	...
Catholic	21.5	...	10.6	...
Other	0.6	...	3.0	...
None	38.4	...	37.4	...
Any doctors of the opposite domain among family members ^c				
Yes	7.4	...	23.4	...
No	92.6	...	76.6	...

Note. WMDs = Western medicine–trained doctors; OMDs = Oriental medicine–trained doctors.

^aData from Korean Medical Association.²⁵

^bData from Association of Korean Oriental Medicine.²⁶

^cWMDs were asked about any OMDs among their parents, siblings, or spouses; OMDs were asked about any WMDs in their families.

WMDs (30.7%) reported a willingness to conduct research on CAM efficacy.

Knowledge of CAM Therapies

As shown in Table 2, OMDs had higher knowledge scores than did WMDs ($P < .001$) for the 10 CAM practices, excluding chelation therapy. The proportion of WMDs who knew the principles of CAM therapies varied considerably, ranging from 1.6% (for Alexander therapy) to 31.1% (for high colonic/enema therapy). OMDs had the least knowledge of chelation therapy (2.6%) and the greatest knowledge of chiropractic (78.6%). More than half of the OMDs reported knowing the principles of chiropractic, taping therapy, and aromatherapy. OMDs had significantly higher overall knowledge scores than WMDs. Pear-

son correlation coefficients between overall knowledge scores and age were $-.06$ ($P = .16$) for WMDs and $-.35$ ($P < 0.001$) for OMDs.

Attitudes Toward CAM

Attitudinal scores showed statistically significant differences between WMDs and OMDs for all items ($P < .001$), as shown in Table 3. Among WMDs, 44.1% strongly agreed with the statement “Scientifically unproven treatments should be discouraged legally”; conversely, only 11.3% of OMDs strongly agreed with this statement. OMDs had significantly higher overall attitudinal scores than did WMDs. Pearson correlation coefficients between overall knowledge and overall attitudinal scores were 0.13 ($P < .001$) for WMDs and 0.15 ($P < .001$) for OMDs.

The Pearson correlation coefficient between overall attitudinal score and age was $-.07$ ($P = .10$) for WMDs. In OMDs, the overall attitudinal score correlated negatively with age (Pearson correlation coefficient = $-.19$, $P < .001$).

Beliefs About Health Concepts

WMDs and OMDs showed different beliefs in health concepts for all items (Table 3). OMDs had stronger beliefs in the natural healing process, health–disease continuum, and psychological effects on health than did WMDs. WMDs showed a greater mean score of belief in a Cartesian view of mind–body dualism.

Practice of, Referral to, and Beliefs in Efficacy of CAM

As seen in Table 4, massage therapy was the most recognized and utilized CAM therapy among WMDs. OMDs most often used chiropractic, followed by taping therapy. Nearly 70% of OMDs had experience with at least 1 of 3 CAM therapies (chiropractic, homeopathy, and massage therapy), compared with only 20% of WMDs. Massage and acupuncture therapies were the most common therapies suggested to patients by WMDs, whereas OMDs frequently referred patients to chiropractic, massage therapy, and taping therapy. WMDs believed that acupuncture and Chinese herbal medicine, the major therapies in Oriental medicine, were the most effective among 6 therapies. OMDs considered chiropractic and massage therapies most effective. A greater proportion of OMDs than of WMDs indicated that 3 CAM therapies—chiropractic, homeopathy, and massage therapy—were effective. More than 75% of OMDs evaluated the efficacy of chiropractic, massage, and Qi Gong as either “very effective” or “moderately effective.”

Doctors' Characteristics and Practice Experience

The overall practice rate of WMDs did not differ between those who practiced in small to medium-sized cities and in metropolitan cities. However, the overall practice rate of OMDs in small and medium-sized cities was significantly greater than that in metropolises (76.2% vs 63.5%; $P < .01$). There were no

TABLE 2—Self-Reported Knowledge of 10 Complementary and Alternative Therapies Among Western Medicine–Trained Doctors (n = 502) and Oriental Medicine–Trained Doctors (n = 500)

Therapy	Knew the Principles of Therapy, %		Had Heard of Therapy, %		Had Never Heard of Therapy, %		Mean Percentage ± SD ^a	
	WMDs	OMDs	WMDs	OMDs	WMDs	OMDs	WMDs	OMDs
Alexander therapy	1.6	3.2	8.2	14.8	90.2	82.0	0.11 ± 0.36	0.21 ± 0.48*
Aromatherapy	15.7	51.0	55.4	43.4	28.9	5.6	0.87 ± 0.66	1.45 ± 0.60*
Ayurveda	2.6	7.8	12.0	33.5	85.4	58.7	0.17 ± 0.44	0.49 ± 0.64*
Chelation therapy	2.4	2.6	11.8	15.0	85.8	82.4	0.17 ± 0.43	0.20 ± 0.46
Chiropractic	28.5	78.6	45.0	15.4	26.5	6.0	1.02 ± 0.74	1.73 ± 0.57*
Gerson's diet therapy	3.8	5.4	17.8	29.7	78.4	64.9	0.25 ± 0.52	0.40 ± 0.59*
High colonic/enema	31.1	43.5	51.6	51.1	17.3	5.4	1.14 ± 0.68	1.38 ± 0.59*
Homeopathy	5.4	32.0	27.3	46.2	67.3	21.8	0.38 ± 0.59	1.10 ± 0.73*
Iridology	8.8	49.8	32.3	41.8	58.9	8.4	0.50 ± 0.65	1.41 ± 0.64*
Taping therapy	14.6	60.6	45.4	28.6	40.0	10.8	0.75 ± 0.69	1.50 ± 0.68*
Overall knowledge score ^b	...	...	...	...	...	...	5.35 ± 3.58	9.88 ± 3.66*

Note. WMDs = Western medicine-trained doctors; OMDs = Oriental medicine-trained doctors.

^aResponse categories: "knew the principles of therapy" = 2; "had heard of therapy" = 1; "had never heard of therapy" = 0.

^bThe overall knowledge score was computed by summing the scores for the 10 CAM therapy items.

*P < .001, 2-tailed t test.

TABLE 3—Attitudes Toward Complementary and Alternative Medicine and Health Beliefs Among Western Medicine–Trained Doctors (n = 502) and Oriental Medicine–Trained Doctors (n = 500), %

	Strongly Agree, %		Agree, %		Disagree, %		Strongly Disagree, %		Mean Percentage ± SD	
	WMDs	OMDs	WMDs	OMDs	WMDs	OMDs	WMDs	OMDs	WMDs	OMDs
Attitudes toward CAM^a										
1. CAM is a threat to public health	7.9	2.2	46.4	27.7	38.1	54.3	7.6	15.8	1.54 ± 0.75	1.16 ± 0.71*
2. Scientifically unproven treatments should be discouraged legally	44.1	11.3	33.5	30.0	16.0	40.7	6.4	18.0	2.15 ± 0.91	1.35 ± 0.90*
3. CAM could be a supplement to Western medicine	2.8	24.1	39.8	62.7	44.4	11.2	13.0	2.0	1.32 ± 0.73	2.09 ± 0.65*
4. Some CAM therapies need to be accepted by Western medicine	5.8	26.6	52.5	62.9	31.4	8.1	10.3	2.4	1.54 ± 0.76	2.14 ± 0.65*
Overall attitudinal score ^b	...	...	...	...	...	...	...	...	5.17 ± 2.14	7.70 ± 1.99*
Beliefs in health concepts^c										
A. Natural healing process	7.0	19.1	41.8	59.2	41.0	17.5	10.2	4.2	1.46 ± 0.77	1.93 ± 0.73*
B. Cartesian view of mind–body dualism	1.6	1.0	10.1	11.2	53.2	37.0	35.1	50.8	0.78 ± 0.69	0.62 ± 0.72*
C. Health–disease continuum	61.9	76.4	35.3	20.6	2.2	2.8	0.6	0.2	2.59 ± 0.57	2.73 ± 0.51*
D. Psychological effects on health	44.3	62.3	50.1	35.5	5.2	2.0	0.4	0.2	2.38 ± 0.60	2.60 ± 0.54*

Note. CAM = complementary and alternative medicine; WMDs = Western medicine-trained doctors; OMDs = Oriental medicine-trained doctors.

^aResponse categories: "strongly agree" = 3; "agree" = 2; "disagree" = 1; "strongly disagree" = 0.

^bThe overall attitudinal score was calculated by summing the scores of the 4 attitude items after reverse-scoring the first and second questions.

^cHealth concept definitions: A. Natural healing process: Fatal diseases such as cancers can be cured through natural healing processes. B. Cartesian view of mind–body dualism: With understanding of the human body's structure and function, we can cure most diseases, although we ignore their psychological aspects. C. Health–disease continuum: Preventive actions should be reinforced, because health and disease phenomena are not dichotomous but continuous. D. Psychological effects on health: Attention to psychological factors facilitates disease treatment and health improvement.

*P < .001, 2-tailed t test.

significant differences by sex in the overall practice rate among both WMDs and OMDs.

In addition, characteristics of CAM users and nonusers were compared. Among

WMDs, no significant difference in age and length of practice was found between CAM users and nonusers. Among OMDs, however, CAM users were younger than nonusers (37.8

vs 44.3 years; P < .0001). The length of practice of CAM users was shorter than that of nonusers among OMDs (10.7 vs 16.2 years; P < .0001). There was a significant relation-

TABLE 4—Practice of, Referrals to, and Belief in Efficacy of 9 Oriental and Complementary Alternative Medical Therapies Among Western Medicine-Trained Doctors (n = 502) and Oriental Medicine-Trained Doctors (n = 500)

	Oriental Medical Practice, %			Complementary and Alternative Medical Therapies, %					
	Acupuncture	Chinese Herbal Medicine	Herbal Therapy	Chiropractic Care	Homeopathy	Massage	Iridology	Qi Gong	Taping Therapy
Practice experience with the therapy ^a									
WMDs	6.8	3.8	1.4	5.8	1.4	16.9	...	...	...
OMDs	...	...	...	56.8	9.0	39.0	22.0	17.4	42.0
Referrals to the therapy ^b									
WMDs	26.9	21.9	5.4	11.2	1.4	27.3	...	...	...
OMDs	...	...	...	72.0	13.2	46.6	24.0	32.8	45.2
Belief in efficacy of therapy ^c									
WMDs	62.0	51.6	20.3	34.7	11.6	48.6	...	...	...
OMDs	...	...	...	87.9	54.8	78.4	64.5	76.6	64.9

Note. WMDs = Western medicine-trained doctors; OMDs = Oriental medicine-trained doctors.

^aProportion of WMDs or OMDs who had ever practiced a specific therapy.

^bProportion of WMDs or OMDs who had ever referred their patients to a specific therapy.

^cProportion of all positive answers (i.e., “moderately effective” or “very effective”).

ship between religion and experience with CAM therapy among WMDs. Subjects in this group who identified as Buddhist or None had more experience with CAM therapies than did those who identified as Catholic or Protestant ($P=.02$). In contrast, OMDs' overall practice rates did not significantly differ by religion. WMDs with 1 or more OMDs in their families tended to have greater experience with CAM therapies than those with no OMDs in their family, whereas having WMDs among family members did not influence use of CAM by OMDs.

Willingness to learn and conduct research on CAM was also significantly associated with overall practice rates for both WMDs and OMDs. Physicians in both groups who expressed a willingness to learn CAM had significantly higher overall practice rates compared with those who did not. WMDs who demonstrated a willingness to conduct research on CAM's efficacy had a greater overall practice rate relative to WMDs who did not (27.3% vs 16.4%; $P<.01$). Similarly, OMDs who were willing to conduct research on CAM's efficacy had greater overall practice rates than those who did not (77.1% vs 52.6%; $P<.0001$).

Furthermore, knowledge of, attitudes toward, and beliefs about CAM were related to use of CAM. CAM users among WMDs had significantly higher overall knowledge scores

(7.4 ± 4.1) than did nonusers (4.9 ± 3.3). Similarly, CAM users among OMDs had higher knowledge scores (10.9 ± 3.1) compared with nonusers (7.6 ± 3.7). CAM users in both groups had significantly higher attitudinal scores relative to nonusers. Among WMDs, CAM users had significantly higher scores in regard to belief scores in the health–disease continuum than did nonusers, whereas no significant differences were found in the other 3 belief scores. Interestingly, among OMDs, CAM users had significantly higher scores for those 3 belief items than did nonusers, whereas the health–disease continuum item did not reach statistical significance ($P=.07$).

DISCUSSION

Study results showed that Korean WMDs and OMDs had significant differences in CAM knowledge, attitudes, beliefs, and practices. OMDs had high levels of knowledge about and practice experience with CAM therapies outside the Oriental medical practice, including CAM therapies with origins in Western culture (e.g., chiropractic). Practice and referral rates of 3 CAM therapies (chiropractic, homeopathy, and massage therapy) of OMDs were higher than median rates reported in a previous study.²⁹ However, practice and referral rates among WMDs related to 5 therapies

(acupuncture, herb therapy, chiropractic, homeopathy, and massage therapy) were lower than median rates previously reported.²⁹ Moreover, WMDs showed negative attitudes toward CAM, whereas OMDs were favorable to CAM. For instance, nearly half of WMDs strongly agreed that “scientifically unproven treatments should be discouraged legally,” whereas only 11% of OMDs agreed.

It is important to examine why these differences between WMDs and OMDs have arisen. One explanation may be that WMDs generally consider CAM as a branch of Oriental medicine rather than an independent domain of medical practice, even though some CAM therapies, such as chiropractic, were developed in Western countries. Another reason may be that WMDs do not make significant efforts to incorporate CAM into Western medicine in Korea. For example, whereas some US and Japanese medical schools provide courses related to CAM,^{30,31} none of the 41 Western medical schools in Korea reported including CAM or Oriental medicine courses in their curricula. Differences in the socialization process during medical education between WMDs and OMDs may also be a contributing factor. International studies of several Far Eastern Asian countries with common cultural backgrounds in traditional medicine could suggest more concrete explanations.

The fact that Oriental medicine is positioned competitively with Western medicine in Korea can be related to the attitudes of WMDs toward CAM. In Korea, Oriental medicine is legally institutionalized and some of its medical services are covered by National Health Insurance.²⁴ This competitive position may cause some WMDs to adhere to their own medical domain as a way to differentiate themselves from OMDs, and it may cause them to rigidly exclude CAM.

One interesting finding was different religious affiliations. A greater number of WMDs were Catholics and Protestants, whereas more OMDs were Buddhists. The relationship of these different religions to CAM use may be explained as follows. Students affiliated with religion originating in Western countries (e.g., Catholicism and Protestantism) may be more likely to choose Western over Oriental medicine, whereas those with Buddhist backgrounds may prefer Oriental medicine. Alternatively, students may naturally come to religious beliefs compatible with the beliefs and philosophy on which their medical education is based. Future studies should examine student religious affiliations at the time of admission to medical schools to confirm these explanations.

Another interesting finding was that younger OMDs had higher CAM practice rates, whereas among WMDs there were no significant age differences between CAM users and nonusers. Although Verhoef and Sutherland¹² support this finding, other studies have reported no significant effect of age on CAM practice.^{32,33} The greater tendency of young OMDs to use CAM therapies may be attributed to their favorable attitudes toward, and active efforts to incorporate CAM into, Oriental medicine. This finding also suggests that in the future more CAM therapies may be used by OMDs rather than by WMDs. Particularly, of the 6 CAM therapies surveyed among OMDs, chiropractic had the highest percentage in practice experience, referrals, and beliefs in efficacy. This result suggests that chiropractic may become the most popular CAM therapy in the near future. In response to increasing CAM use, the public and OMDs may wish to request that CAM therapies be covered by National Health Insurance. In addition, given the negative attitude of WMDs toward CAM, such

an increase might well stir public debate on CAM's efficacy and appropriateness.

Yet another interesting finding was that WMDs with family members who practiced Oriental medicine were more likely to use CAM therapies. The reverse was not true, however, with OMDs. This suggests that, whereas OMDs may influence the use of CAM therapies in physicians trained in Western medicine, WMDs have little influence on OMDs. This supports the idea that OMDs, as major CAM providers, would lead in the introduction and diffusion of CAM in the future.

This study highlights knowledge of CAM therapies as an important factor that may influence CAM use in the future. About two thirds of OMDs and one third of WMDs reported a willingness to learn CAM therapies. In addition, the level of knowledge about CAM was strongly associated with CAM practice experience, regardless of providers' educational backgrounds. Berman et al.¹⁸ also reported that knowledge of CAM was the best predictor of CAM acceptance and usage. These findings suggest the need to develop a body of knowledge on CAM and to provide accurate information about it for both WMDs and OMDs. This knowledge will be necessary for these doctors to make appropriate clinical decisions and judgments regarding CAM use.

This study has 2 major limitations. In spite of a systematic sampling process, study subjects may not represent the target population. One finding was that doctors, particularly WMDs, were younger compared with the average age of doctors in national data. One explanation may be that in a practice with more than 1 physician, junior doctors may be appointed to participate in an interview, thus contributing to the sample's lower mean age. In addition, physicians interested in CAM may be more likely to respond to a survey on CAM.³⁴ This effect could bias the results by indicating greater knowledge of, more favorable attitudes toward, and increased practice experiences with CAM than in fact exist. However, no information was collected on physicians who rejected or chose not to participate in the interview process for this study. Also, because this was a cross-sectional survey, more attention should be paid to arriving at definitive conclusions regarding cause-and-effect relationships. For example, it is unclear

whether a rich knowledge of CAM leads physicians to use these types of therapy or whether chance exposure to CAM practice has influenced the general amount of knowledge.¹⁸ Further studies with a prospective design may clarify this kind of temporal ambiguity between knowledge, attitudes, beliefs, and practice variables.

This study was the first Korean attempt to compare WMDs and OMDs in regard to CAM knowledge, attitudes, beliefs, and practice. The investigation is meaningful because Korean WMDs and OMDs are licensed medical doctors and thus potential CAM providers. CAM will be more readily used in Korea by OMDs than by WMDs in the office settings. Considering the dearth of evidence for CAM's effectiveness, more research is needed for the prudent use of CAM in Korea. Also, an education and training system for potential CAM providers needs to be developed. ■

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Contributors

S.I. Lee planned the study, designed the survey, collected the data, reviewed the data analysis, and edited the article. Y.H. Khang participated in the design of the survey, collected and analyzed the data, and wrote the first draft of this article. M.S. Lee participated in the study design, data interpretation, and analysis. W. Kang participated in the study design and the statistical analysis, verified the SAS (SAS Institute, Inc., Cary, NC) programs, and reviewed the data analysis.

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Human Participant Protection

This study was approved by the institutional review board of the Asan Medical Center, Seoul.

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