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Original Research Article

# Internet survey on the provision of complementary and alternative medicine in Japanese private clinics: a cross-sectional study

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ABSTRACT

*Objective:* Although the use of complementary and alternative medicine (CAM) by the general population has been surveyed previously, the provision of CAM by Japanese physicians in private clinics has not been studied. Universal health insurance system was established in Japan in 1961, and most CAMs are not on the drug tariff. We aimed to clarify the current status of CAM provided by physicians at private clinics in Japan.

*Methods:* We conducted an internet survey on 400 directors/physicians of private clinics nationwide on the provision of CAM from February 6 to February 10, 2017. Survey items included attributes of subjects, presence/absence of sections or facilities for provision of CAM, proportions of health insurance coverage for medical practices, and source of information. Private clinic was defined as a clinic run by one physician, with less than 20 beds.

*Results:* Commonly provided CAMs were Kampo (traditional Japanese herbal) medicines (34.8%) and supplements/health foods (19.3%). CAMs on the drug tariff were provided in 46.5% of cases at the clinics, but only 16.5% of cases were provided CAMs which were not on the drug tariff, at different neighboring facilities. Among different specialties, Kampo medicines were prescribed at obstetrics/gynecology (54.0%), orthopedics (44.4%), and dermatology (43.0%). Clinics not providing any CAM accounted for 53.5%. With regard to health insurance coverage, 96.8% of the clinics provided only or mainly health services on the universal national health insurance tariff (29.8% and 67.0%, respectively).

*Conclusion:* Kampo medicines represent the most commonly used CAM in private clinics in Japan, and universal national health insurance coverage is considered to be the reason for the high rate of their use.

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## 1. Introduction

Japan is experiencing an increase in the use of complementary and alternative medicine (CAM); both the number of patients visiting medical institutions and the usage of CAM within the general population are increasing. Within Japan, 30% of patients with rheumatoid arthritis received CAM, 44% of whom had taken an average of two types of dietary supplements [1]. Studies on cancer patients in Japan have shown increases in the rate of CAM use [2]. The explanations for the psychobehavioral mechanisms prompted patients to seek out CAM use [3]. The rate of CAM use in rural Japan is as high as 80% according to Shumer et al. [4].

Medical providers try to practice evidence-based medical care, leading to different opinions on appropriateness of CAM use, between physicians and the patients who seek out CAM as part of their care. According to surveys conducted in Japan, the rate of medical institutions practicing CAM was 73% in 1999 [5], and 76% in 2001 [6]. Imanishi et al. [5] surveyed the attitude of physicians of the Kyoto Prefectural Medical Association (almost half of them are physicians of private clinics) by mail, and reported that 76% used CAM, of which Kampo products accounted for 70%.

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However, there has been no report on the provision of CAM by physicians practicing only at private clinics.

Due to Japan's universal national health insurance (NHI) system, supplements and natural medicines not listed on the NHI drug tariff are rarely available at medical institutions in Japan. However, some private clinics handle CAM by running facilities that are separated from the usual medical operations.

We conducted a utilization study of CAM at private clinics using the internet. Our research questions were, (1) how is CAM provided at private clinics in Japan, where there are two types of CAMs, some are on the drug tariff, and others are not? (2) How does NHI affect the use of Kampo?

## 2. Methods

### 2.1. Survey

We conducted an internet survey of 400 out of 963 directors of private clinics among approximately 16,000 registered monitor members of Seed Planning, Inc. (Tokyo, Japan) on CAM provision from February 6 to February 10, 2017.

### 2.2. Questionnaires

Questionnaires were developed from draft survey items, which was one of the outcomes of the study funded by the Ministry of Health, Labour and Welfare in the fiscal year 2014 [7]. The study in 2014 was a hearing survey to two physicians who actively provided "product-type" CAMs. The questionnaires of the internet survey in the present study were based on the above survey in 2014.

### 2.3. Private clinic

Private clinic was defined as a clinic run by one physician, with less than 20 beds (based on the Medical Service Law of Japan, Article 1–2, paragraph 2).

### 2.4. Items

Survey items included attributes of subjects, presence/absence of sections or facilities for provision of CAM not on the drug tariff, proportions of insured and uninsured medical practices, and source of information.

### 2.5. Ethical considerations

Since questionnaires regarding the use of CAM may involve items pertaining to personal values, care was taken not to require compulsory answers in conducting the survey. The study was approved by the Ethics Committee of Nihon Pharmaceutical University (28-04) and registered to the UMIN Clinical Trials Registry (UMIN000026131).

## 3. Results

### 3.1. Attributes of subjects

A total of 400 physicians (clinical directors, owners, etc.) running private clinics were included, consisting of 375 males (93.8%) and 25 females (6.2%); the mean age was 54.7 years.

### 3.2. Term as clinical director

The largest group of physicians had worked for 10–20 years as director. Ophthalmologists and otorhinolaryngologists accounted for over 50% (Table 1).

### 3.3. Presence of facilities providing CAM not on the NHI tariff

Most clinics did not have facilities providing CAMs which are not listed on the NHI tariff (Table 2).

**Table 1**
Term as clinical director (number of years in practice).

| Subject | Number of years in practice (multiple answers) | | | | | |
|---|---|---|---|---|---|---|
| | < 1 year | 1 year – 5 years | 5 – 10 years | 10 – 20 years | > 20 years | Total |
| Internal medicine (*n* (%)) | 0 | 9 (4.4%) | 54 (26.2%) | 95 (46.1%) | 48 (23.3%) | 206 |
| Dermatology (*n* (%)) | 0 | 6 (7.6%) | 17 (21.5%) | 35 (44.3%) | 21 (26.6%) | 79 |
| Cosmetic/plastic surgery (*n* (%)) | 0 | 4 (9.8%) | 11 (26.8%) | 18 (43.9%) | 8 (19.5%) | 41 |
| Obstetrics/gynecology (*n* (%)) | 0 | 3 (6.0%) | 17 (34.0%) | 17 (34.0%) | 13 (26.0%) | 50 |
| Gastroenterology (*n* (%)) | 0 | 2 (2.6%) | 20 (26.3%) | 37 (48.7%) | 17 (22.4%) | 76 |
| Orthopedic surgery (*n* (%)) | 0 | 1 (2.2%) | 12 (26.7%) | 20 (44.4%) | 12 (26.7%) | 45 |
| Ophthalmology (*n* (%)) | 0 | 2 (3.8%) | 11 (20.8%) | 32 (60.4%) | 8 (15.0%) | 53 |
| Otorhinolaryngology (*n* (%)) | 0 | 1 (2.3%) | 10 (22.7%) | 22 (50.0%) | 11 (25.0%) | 44 |
| Total (*n* (%)) | 0 | 23 (5.8%) | 103 (25.7%) | 189 (47.2%) | 85 (21.3%) | 400 |

**Table 2**
Presence/absence of on-site facilities providing health services (multiple answers).

| Subject | No facilities for health service | Health-promoting facilities | Health and welfare facilities | Various therapeutic facilities | Others | Total |
|---|---|---|---|---|---|---|
| Internal medicine (*n* (%)) | 187 (90.8%) | 7 (3.4%) | 16 (7.8%) | 1 (0.5%) | 3 (1.5%) | 206 |
| Dermatology (*n* (%)) | 76 (95.0%) | 2 (2.5%) | 2 (2.5%) | 0 | 0 | 79 |
| Cosmetic/plastic surgery (*n* (%)) | 36 (87.8%) | 4 (9.8%) | 2 (4.9%) | 0 | 1 (2.4%) | 41 |
| Obstetrics/gynecology (*n* (%)) | 49 (98.0%) | 1 (2.0%) | 1 (2.0%) | 0 | 0 | 50 |
| Gastroenterology (*n* (%)) | 67 (88.2%) | 3 (3.9%) | 8 (10.5%) | 0 | 1 (1.3%) | 76 |
| Orthopedic surgery (*n* (%)) | 42 (93.3%) | 1 (2.2%) | 3 (6.7%) | 0 | 0 | 45 |
| Ophthalmology (*n* (%)) | 50 (94.3%) | 2 (3.8%) | 0 | 0 | 1 (1.9%) | 53 |
| Otorhinolaryngology (*n* (%)) | 39 (88.6%) | 3 (6.8%) | 4 (9.1%) | 0 | 0 | 44 |
| Total (*n* (%)) | 373 (93.3%) | 11 (2.8%) | 20 (5.0%) | 1 (0.3%) | 4 (1.0%) | 400 |

### 3.4. Proportions of insured and uninsured medical practices

Overall, the group providing "mainly insured medical practices, but occasionally uninsured medical practices" was the largest (Fig. 1).

### 3.5. Status of CAM provision

Approximately half of the physicians provided CAM (Fig. 2).

### 3.6. Details of CAMs provided

The most commonly provided CAM was Kampo medicines prescribed by physicians (Kampo products for ethical use). The second most commonly provided CAM was "supplements/health foods"; ophthalmology, cosmetic surgery/plastic surgery, obstetrics/gynecology, dermatology, and otorhinolaryngology were the five specialties most commonly providing these CAMs. The third most commonly provided CAM was placenta therapy, administered either orally as dietary supplement or by subcutaneous injection. It was more commonly provided in obstetrics/gynecology, cosmetic surgery/plastic surgery, and dermatology, in which female patients are dominant (Fig. 3).

### 3.7. Source of information

The most common source of information was "sales representatives of manufacturers and facilities, etc" (Fig. 4).

## 4. Discussion

This is the first internet-based attempt to investigate the provision of CAM by Japanese physicians at private clinics. Previously, Imanishi et al. [5] reported that Kampo medicines were the most commonly used CAM by physicians of Kyoto Medical Association. In our survey, the majority of the CAM provided at the medical institutions surveyed was Kampo products for ethical use. The frequency of providing Kampo products for ethical use was lower in ophthalmology (18.9%), gastroenterology (31.6%), and internal medicine (33.0%), in which conventional Western medicine is standard.

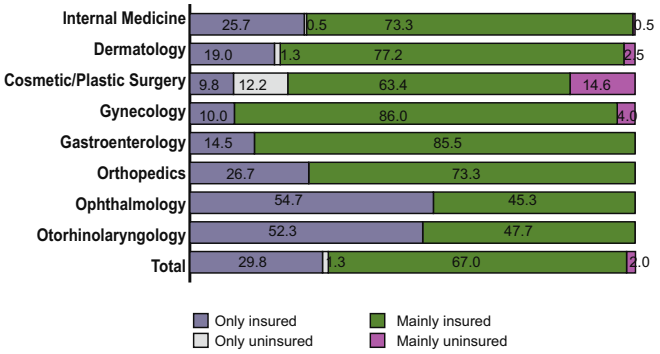


**Fig. 1.** Proportions of insured and uninsured health services.

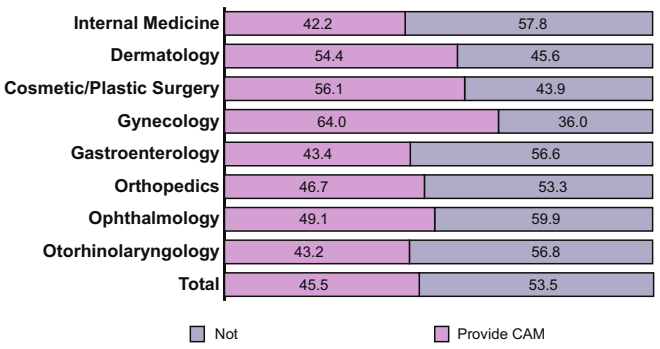


**Fig. 2.** Status of CAM provision. CAM: complementary and alternative medicine.

Kampo, traditional Japanese herbal medicine, originates from ancient Chinese herbal medicine, but has developed uniquely in Japan for approximately 1300 years. Kampo extract preparations have been covered by NHI since 1967, and 148 Kampo prescriptions are currently provided by physicians through NHI [8]. Furthermore, Kampo was incorporated into the Medical Education Model Core Curriculum in 2001, and young physicians are becoming less resistant to Kampo [9].

Some physicians, especially those working at hospitals, may not regard Kampo medicines as CAM. Kampo medicines for ethical use are provided as packaged dried powder, and physicians prescribe those in the same way as Western medicines, usually based on a Western medicine diagnosis. This may be associated with the adoption of a unified medical licensing system in Japan, whereas Western medicine and traditional medicine are separated at medical schools in China and Korea [8,9]. Our study revealed that Kampo medicines were widely used in many different specialties, in accordance with the previous survey on Kampo products [10].

Some procedures including acupuncture and massages are also covered by NHI only when a physician issues a diagnostic certificate for the limited disease categories such as low-back pain and neuralgia [11]. With regard to the proportions of insured versus uninsured health services, the group providing mainly insured health services (but occasionally uninsured health services) made up the highest proportion. The context of uninsured health services here could refer to health foods or supplements sold in the clinic, or self-care such as meditation and yoga, being made available within the clinic.

The second most commonly provided CAM was supplements and health foods, which were used especially in the fields of ophthalmology, cosmetic or plastic surgery, dermatology, and otorhinolaryngology. In many of these specialties, therapies provided under NHI for aging-related diseases are limited, and doctors can only say, "It is a sign of aging and there is not much that can be done." The CAM supplements or health foods are one way that doctors can respond to those patients wishing to actively improve their health.

Based on the years of experience as clinical directors as well as physicians, and their age, it was considered that surveyed physicians obtained their views on CAM and attitudes toward provision of CAM (positive or negative) from their experiences and self-learning. Most of the surveyed clinics did not have facilities providing CAM which is not on the NHI tariff. Since mixed billing (*kongosinryo*, 混合诊疗) is prohibited in Japan, CAM not on the NHI tariff is rarely provided in ordinary medical practice.

The most common source of information was the manufacturers' sales representatives. For example, information on Kampo products is provided by medical representatives (MR) of Kampo manufacturing companies. Quality of MR is regulated by MR Accreditation Center (https://www.mre.or.jp/). The sources from which physicians obtain reliable information on health foods and supplements are unknown. Sales representatives of health food and supplement manufacturers rarely visit physicians, and there are few reliable brochures, lectures and workshops available for physicians.

Little information regarding CAM was obtained from websites, which may reflect that the quality of information available on the internet is poor. This problem prompted the Japanese Ministry of Health, Labour and Welfare to develop an information site for

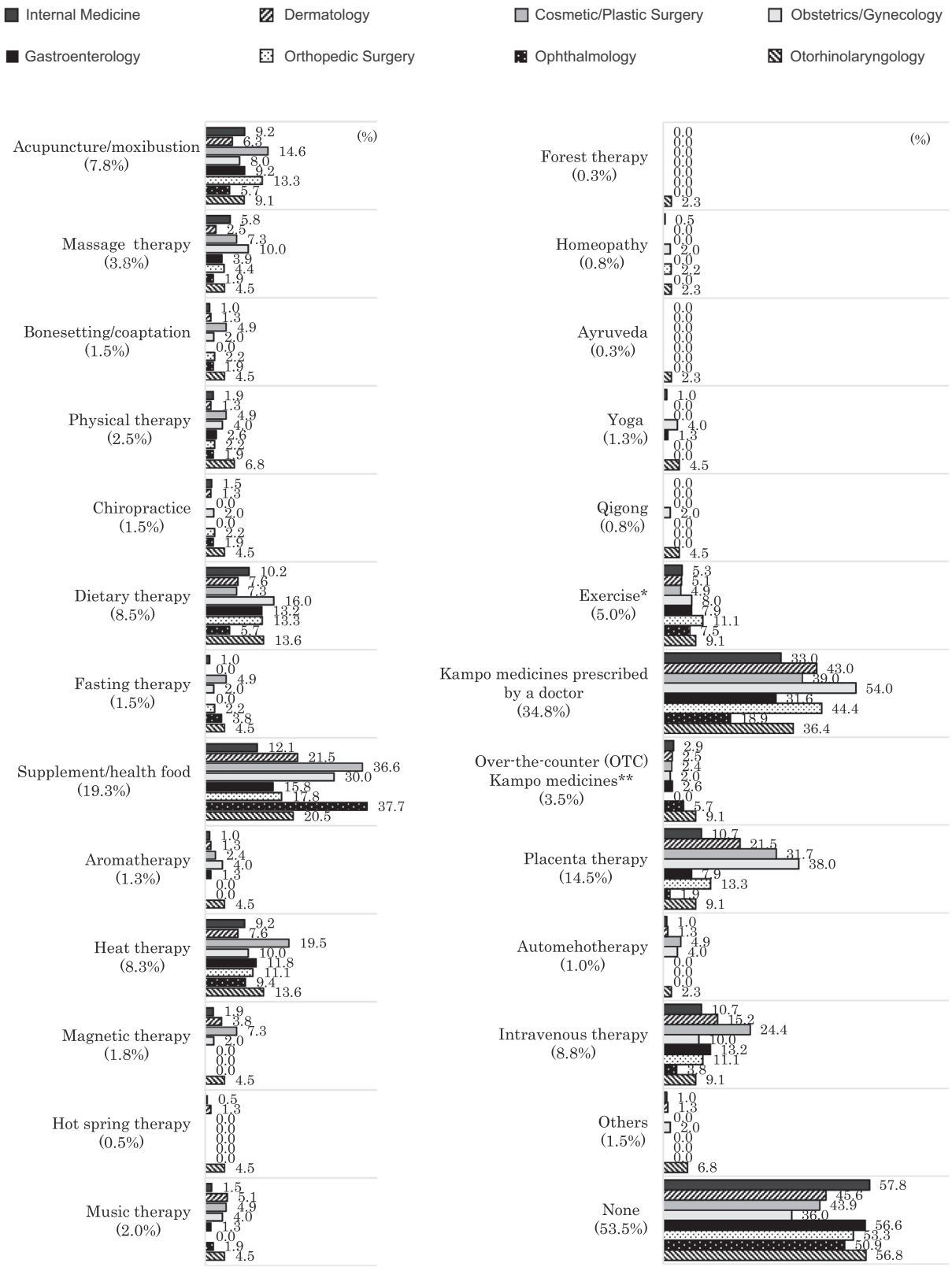


**Fig. 3.** CAM provided at private clinics ($n$ = 400). *Except for therapeutic exercise provided by health insurance; **including those available for purchase without a physician's prescription and prepared at pharmacies specialized in Kampo medicines. Data are represented as percentage.

integrative medicine, named "Evidence-based Japanese Integrative Medicine." This website (http://www.ejim.ncgg.go.jp/en/index.html) includes evidence reports, which are compilations of structured abstracts of randomized controlled trials on Kampo products, acupuncture, moxibustion, and anma-massage-shiatsu (Japanese manipulative therapies). It also contains Japanese translations of high-quality, evidence-based health service and products described on the websites of the U.S. National Institutes of Health,

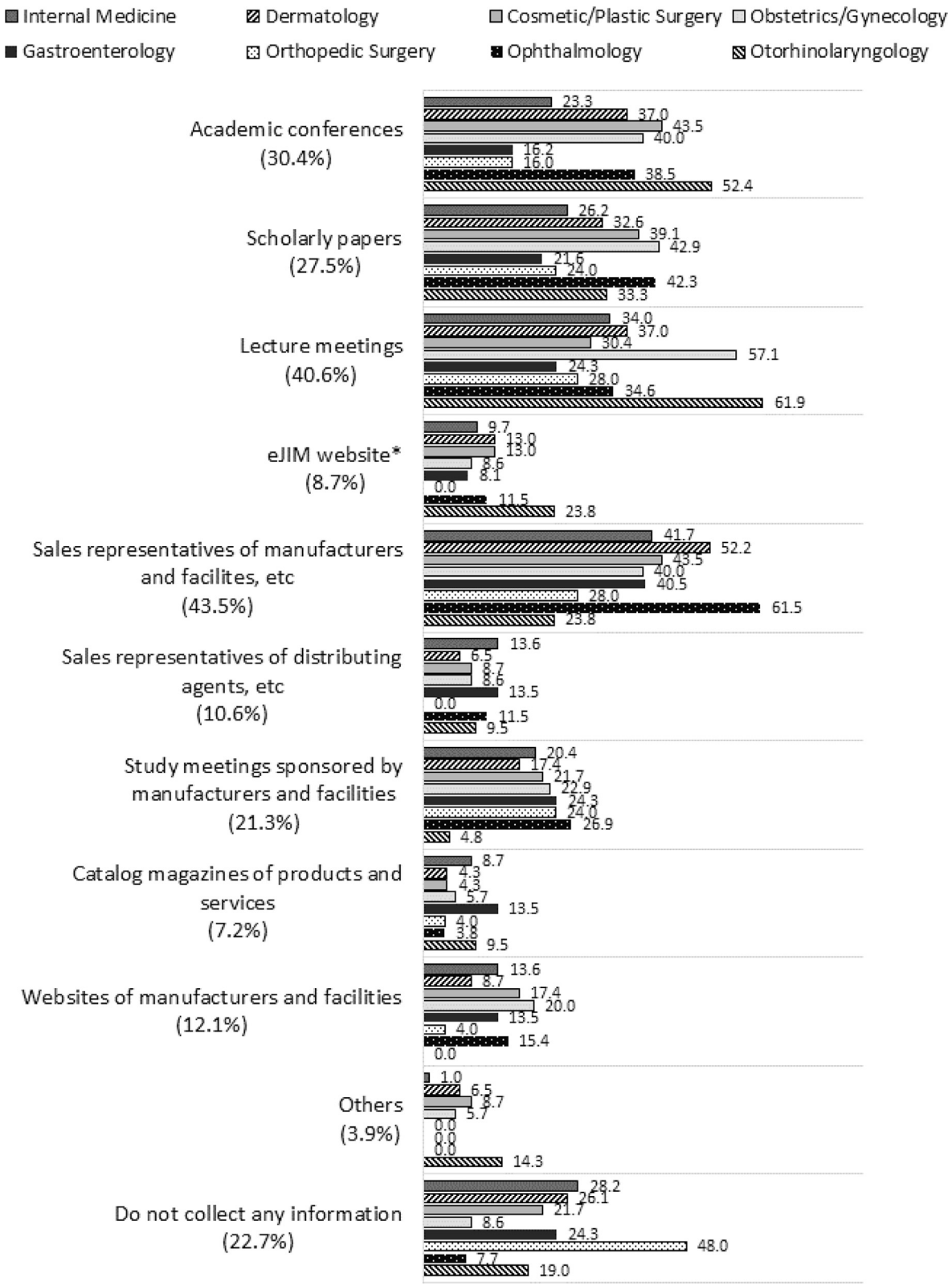


**Fig. 4.** Sources of information regarding complementary and alternative medicine provided under physician guidance at private clinics or facilities other than clinics ($n$ = 207). *An information site for integrative medicine operated by the Japanese Ministry of Health, Labour and Welfare. Data are represented as percentage of the total number of physicians.

National Center for Complementary and Integrative Health, and summaries of the Cochrane review [12].

There are two limitations in this study. One is the potential selection bias of the study participants. CAM-oriented physicians might enter this survey partly because the introduction on the first page of solicitation included the words "*Soho daitaiiryo*" (补充替代医疗, CAM) or *Togo iryo* (统合医疗, integrative medicine), and might produce potential bias toward attitudes of physicians toward CAM.

As described above, there are clinics in which physicians run facilities that provide non-NHI-listed CAMs next to their own clinics. In such a case, a physician may recommend CAM to patients at least partly for purposes of profit. It is also possible that the attitudes toward CAM are different between private practitioners and hospital-based physicians, the latter of whom were not included in the survey. The results of this survey, therefore, do not represent the attitudes of all Japanese physicians.

The second limitation is the secretive nature of Japanese private clinics that provide CAM, especially in urban areas. Special arrangements such as use of separate sections of a building, a separate entrance, and special contracts with neighboring private CAM providers are common tactics, but are not openly discussed. And the actual implementation of "the ban of mixed payment" varies among different municipal medical regulation agencies. This situation could lead private clinic owners (or clinical directors) to not participate in a questionnaire survey or to not answer the questions with complete accuracy or honesty.

In conclusion, the present internet survey revealed that the most commonly provided CAM by Japanese physicians at private clinics is Kampo medicines for ethical use, which is listed on the drug tariff. The regulatory policy of the ban of mixed payment in Japan may affect the limited use of supplements and health foods at private clinics.

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## Conflict of interests

The authors declare that they have no competing interests.

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