EVALUATING INTEGRATIVE MEDICINE IN JAPAN: A SOCIAL AND MEDICAL MODEL PERSPECTIVE

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Abstract

Background

The world's demographics are changing, and governments are prompted to implement various health promotion and disease prevention programs to improve the well-being of their people around the world, to improve the quality of life (QOL) and to reduce Medicare expenses. Therefore, a reliable system is needed to aid and support this expectation.

Integrative medicine (IM) is an "integrative approach to health care that combines traditional and/or complementary and modern medicine that emphasizes a whole body, patient-centred approach to health care and wellness and the treatment of the whole person and is designed to enable diverse providers and well-coordinated care across institutions". In addition, in terms of medical practice, the Japanese government defines IM as "medical practice led by doctors and in collaboration with other health professionals."

However, to promote the IM, we must first gain the trust of patients and the public. This is not only a challenge, but a significant problem faced by the solution, including effectiveness and safety, insufficient understanding of drug-product interactions, lack of strict regulatory controls on the product leading to abuse, and a statistically significant of CAM, and conflicts between research and clinical practices. But there is still excitement about IM, especially after the COVID-19 pandemic, the emphasis on epidemics and underlying diseases, and the rise of alternative medicine. In Japan, the Japanese government is considering actively promoting the IM from the perspective of extending healthy life expectancy. Therefore, obtaining reliable information and easily getting it to consultants is very important. As far as IM in Japan is concerned, IM is based on modern Western medicine, and the combination of complementary and alternative therapies with traditional medicine further improves QOL. However, it is not easy to define IM under the current circumstances.

Based on this, an in-depth understanding and analysis of integrated medicine are necessary. This study investigates the use of medical and social models to analyse IM in Japan. It uses the results of this analysis to provide a reference for the development of IM in other countries.

Methods

This study investigated core curriculum, syllabuses, national examinations, and local government health promotion programs in Japan.

It was analysed whether the published documents regarding the core curriculum, national examination standards include IM. The syllabuses on 2018 academic year were analysed. The local government health promotion programs on 2018 academic year were also analysed.

Core curriculum

The national core curriculum for education of medicine, dentistry, pharmacy, and nursing universities were obtained from The Ministry of Education, Culture, Sports, Science and Technology (MEXT) website.

National examination standards

The national examination standards for medical doctors, dentists, pharmacists, and nurse licenses were also obtained from Ministry of Health, Labour and Welfare's (MHLW) website.

Syllabus

The syllabus of lectures in each university, the homepages of all Japanese universities are recorded periodically in the Web Archiving Project (WARP) of the National Diet Library of Japan. Syllabuses of lectures from medicine, dentistry, pharmacy, and nursing universities in the 2018 educational year were obtained from the homepages of each university recorded in WARP. Syllabuses of medicine, dentistry, and pharmacy university lectures were limited to

the 6-year courses to get national licenses. Syllabuses of nursing universities were limited to the 4-year courses in universities to get national graduate nurse licenses.

Term of IM

The search term of IM in the documents was based on the names of remedies frequently used in Japan (Table 1). In addition, other non-modern and nonconventional remedies were also picked up. Comprehensive terms such as "integrative medicine", "complementary medicine", "alternative medicine", "traditional medicine", and "holistic medicine" were also picked up.

IM Health-promotion programs in local governments

IM health-promotion programs in Japanese local governments were Investigated in the National Diet Library of Japan (Web Archive Project: WARP; <u>https:// warp.ndl.go.jp/? lang</u> =en) . This library preserves the websites of all Japanese local governments four times per year. We extracted the IM programs, including IM vocabulary, from the four recordings of the websites of 1,944 local government archived on WAPR in 2018. Types of IM, the qualifications of providers, the number of times programs, and the purpose of programs were searched. The IM programs extracted in WARP were analysed according to the classification of IM in the "Information Site for Evidence-based Japanese Integrative Medicine (eJIM)" (Table 1).

Results

Core curriculum

In the model core curricula for medical, dental, pharmaceutical, and nursing education, Kampo medicines were gradually included with specific requirements. The 2022 editions all address the indications, pharmacological effects, and characteristics of Kampo medicines. While other integrative medicines are optional in medical and dental education, Kampo medicine is a required part of pharmaceutical education. Nursing education also requires concrete knowledge of Kampo medicines and alternative therapies.

Syllabus

The Faculty of Medicine collected data from 97.1% of medical schools and found a significant presence of Kampo medicine in medical education, and 84.4% of the universities/courses are compulsory subject. But other descriptions of IM have hardly been confirmed.

The Faculty of Dentistry found that 60% of dental schools include Kampo medicine subjects, which is compulsory in 58.3% of the universities/courses, other descriptions of IM same as medical school.

The Faculty of Pharmacy found that Kampo medicine was in 100% of the faculties of pharmacy. However, in compulsory subjects, syllabuses of only 94.3% include Kampo medicine, 92.9% include health foods and supplements, and 30% include integrative, complementary, and alternative medicine.

The Faculty of Nursing collected data from 33.4% of schools. In compulsory subjects, 11.5% included integrative, complementary, and alternative medicine (Others Integrative medicine except for Kampo or health food), 19.7% included Kampo medicine, 16.8% includes massage and 17.3% included Anpo.

Health-promotion programs

A total of 1,739 IM programs were implemented in 537 local governments (27.6% among all Japanese local governments). These included programs for Yoga (1,242; 71.4% of the projects), Qigong (211; 12.1%), and Aromatherapy (145; 8.3%). After the survey found that among the integrated medical health promotion programs, most health promotion activities were one-time, among which yoga accounted for the most. Yoga is the most repetitive activity, and Qigong is the longest session most activity. Among the providers of the programs, only 16 (0.9%) were national medical-related license holders. The purpose of

disease prevention or health promotion was not described with scientific basis (safety and effectiveness).

Discussion

This study evaluates the medical and social models of Japan's integrated medical care. Regarding the present-day results, we investigate the medical model from the education perspective and the social model from the perspective of health promotion plans in public health.

In the medical model, IM subjects need to be included in the model core curriculum and are barely included in the syllabus, indicating a lack of educational progress. There is very little IM education in the medical faculty other than Kampo medicine, ideally, doctor-led medical practice with other professions. However, this does not show that medical doctors have more education and knowledge. In other majors and medical schools, the situation is the same. Kampo is still the mainstream, and there is little introduction to other IMs.

In the social model, in Japan, also strongly emphasises health prevention, and integrated medical health promotion programs often promote healthy lifestyles. Patient education and empowerment are key components of these programs, encouraging individuals to manage their health actively and have more choices about their healthcare options.

Local governments across Japan are implementing health promotion program plans. No local government Home page (HP) has announced the results of implementing projects, and it cannot be judged that implementing integrated medical projects benefits disease prevention and health promotion. In the future, it is necessary to obtain clinical evidence on the usefulness of these programs to promote them as a healthy and safe integrated medical social model to citizens participating in the course.

Most program leaders need to have national medical qualifications. Even if the MHLW formulates IM led by doctors, most do not adhere to the definition.

The purpose of the project often needs to be clarified. Even if the purpose is clear, the rationale must be clearly stated. In the future, medical instructors with national qualifications will ensure the quality of instructors by conducting projects, demonstrating the project's purpose, explaining the reasons, and clarifying the results of disease prevention and health promotion after participating in the project. It is possible to choose practical and safe IM without causing the citizens participating in the course to have misunderstandings and excessive expectations about IM. Promoting it as a social model is necessary.

Regarding the Japanese integrated medicine situation, the actual results require strengthening education and training in both the medical and social models to realize the contribution of integrated medical care to society.

Conclusion

Understanding Japan's integrated medical care, regardless of the medical and social model, needs to start with education. Enhanced training is important to integrate IM and realise its potential contribution successfully. Proper education and training for medical doctors and all other health professionals are essential.

Keywords

Core curriculum, integrative medicine, Kampo medicine, medical education, national examination standard, syllabus, Evidence-based medicine, Health promotion, Integrative medicine

This thesis is based on the following two papers.

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Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

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_____18/12/2024_____

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According to the World Health Organization (WHO), the global incidence of noncommunicable diseases (NCDs) or chronic diseases continues to rise [1,2]. NCDs have become the leading cause of death worldwide, increasing from 61% of mortality in 2000 to 74% in 2019, posing a significant public health challenge in the 21st century [3].

Despite advancements in modern medicine, contemporary society still faces a series of epidemics and pandemics of chronic non-communicable and infectious diseases [4,5]. These public health crises are partially linked to behavioural and lifestyle factors [6]. Following the COVID-19 pandemic, heads of state government have recognized the importance of robust, primary healthcare-oriented systems for protecting public health and social well-being, which has been reflected in national development plans [7,8]. Historically, new medical models have emerged as a fusion of old traditions and new innovations. Changes occur because society questions old approaches, and today's situation is no different [9].

Research has identified increasing weaknesses in primary healthcare systems in countries such as the Netherlands, the United Kingdom, and Australia [10]. In some high-income countries, primary healthcare investment is primarily aimed at improving the accessibility and quality of primary care services [11].

Additionally, evidence from primary healthcare reforms in South Asia indicates a gap between policy and practice [12]. The persistent challenges, including the rising burden of NCDs, the weak regulation of health systems, and the increasing activities of the private healthcare sector, appear to outpace the speed and substance of reforms intended to address these issues. Despite specific cases of reform, tackling these challenges requires a commitment to macro-level transformative change, which is difficult even in high-income countries [13].

Policy highlights the focus on primary health care, but there is a lack of corresponding practical efforts, such as enforcement of laws and regulations and investments in infrastructure, supplies, and human resources[14]. The paper points out that while there are high-level policies for addressing NCDs in South Asia, the health systems are inadequately prepared. Failures in planning, infrastructure, workforce development, and monitoring have led to shortcomings in implementing NCD policies. This issue is further compounded by a shortage of doctors, nurses, and other health care professionals, as well as by neglecting multi-level education for health care stakeholders and patients. Urban development policies nominally promote urban infrastructure, but there is a lack of coherent planning, budgeting, and public participation to improve urban primary health care [13].

These barriers highlight the challenges contemporary health systems face in implementing reforms [13]. Post-pandemic priorities include integrating health security issues into the core functions of primary health care and enabling health systems to adapt to future disease outbreaks [15]. The academic landscape has been slowly moving towards a more holistic and personalized approach to treatment [16]. Increasing evidence suggests that integrating conventional medicine with traditional, complementary, and alternative medicine (TCAM) may help prevent and treat infectious and chronic diseases related to behaviour and lifestyle [17-19]. As a result, the field of Integrative Medicine (IM) continues to evolve.

1.1 Background (Background of IM)

Integrative Medicine (IM) combines conventional, natural, and complementary medicines/therapies with lifestyle interventions to provide holistic, patient-centred care. IM recognizes all potential influences on human health, studying human ecology, including how individuals interact with their environment [20]. It emphasizes the importance of addressing the whole person, is evidence-based, and uses all appropriate therapeutic approaches, lifestyle

methods, healthcare professionals, and disciplines to achieve optimal health and rehabilitation [21-23].

The overall goal of IM is to use the most appropriate, safe, ethical, and evidence-based approaches, with a particular focus on prevention and lifestyle interventions. This approach, grounded in evidence and patient preferences, can offer a broader range of treatment options and disciplines to achieve the best clinical outcomes [24].

IM illustrates the importance of the relationship between physician and patient. It focuses on the whole person, is evidence-based, and utilizes all appropriate treatments, healthcare professionals, and disciplines to achieve optimal health and recovery [19].

The 2018 Astana Declaration is a landmark step for all primary health care, public health and traditional, complementary and integrative medicine (TCIM) approaches. It combines and advances the priorities of the World Health Organization's 1978 Declaration of Alma-Ata, which emphasized the importance of universal health coverage with UNICEF's Sustainable Development Goals. The World Health Organization (WHO) and UNICEF 2018 Astana Declaration is a landmark step forward for primary health care [25], public health, and traditional, complementary and integrative medicine; priority was given to the international importance of universal health coverage [25]. The World Health Organization (WHO) In the Traditional Medicine Strategy 2014-2023, more countries recognise the importance of traditional and complementary medicine in terms of their contribution to individual health and well-being and the comprehensiveness of national health care systems and the provision of effective traditional health services and self-care to promote universal health coverage, [26] and traditional, complementary and integrative health (TCIH) stakeholders will also be included) It is more important than ever that WHO Member States decide whether WHO should Develop new strategies [26].

The strategy aims to help member states, "leverage the potential contribution of TMs to health, wellness and person-centred healthcare" and "promote the safe and effective use of TMs through the regulation, research and integration of TM products, practitioners and practices" as appropriate. health systems [27]".

***Traditional Medicine (TM)**: As you stated, TM refers to medical practices deeply rooted in different cultural beliefs and knowledge systems. These practices may only sometimes be scientifically explainable but are historically used for maintaining health and preventing, diagnosing, and treating diseases [27].

*Complementary Medicine (CM): CM includes therapies and treatments not commonly used by doctors in mainstream healthcare but that may be integrated into medical care to complement conventional treatments. Some countries might interchange CM and Traditional Medicine, though they may have different cultural backgrounds [28].

***Traditional and Complementary Medicine (T&CM)**: This term combines TM and CM and refers to products and practices related to these approaches [27].

***Traditional, Complementary, and Integrative Medicine (TCI)**: TCI is a global framework focusing on the coordination and integration of TM, CM, and conventional medicine. The goal is to enhance healthcare services, promote universal health coverage, and contribute to sustainable development goals related to health [29].

The global interest and usage of TCIM have surged. Nearly 50% of the population in developed countries, with a similar or even higher proportion in developing countries, use some form of TCIM [30]. The WHO and different governments have established organizations to support the research and practical application of TCIM [27]. Numerous studies have raised questions and attempted to clarify issues, promoting the integration of TCIM into contemporary medicine and public health [23].

The role of IM in public health varies across countries. In the United States, CAM has undergone development and revaluation phases [31]. The need for uniformity in the approval of various CAM practices across states and the limited insurance coverage highlights this inconsistency [32]. Significant barriers to CAM use in the U.S. include: Financial Barriers: A significant portion of CAM treatments is not covered by insurance, making them unaffordable for many individuals; Frustration: Both traditional doctors and some members of the public display clear tendencies to discourage the use of CAM; Evaluation Challenges: Patients need help to assess the effectiveness and benefits of various CAM treatments and their costs. Despite these barriers, the National Institutes of Health (NIH) has been making efforts through the National Centre for Complementary and Integrative Health (NCCIH) to regulate the integration of traditional medicine and CAM in a systematic manner [32]. Notably, patients spend over \$1.8 billion annually on CAM, which exceeds the spending on pharmaceutical benefits under the Pharmaceutical Benefits Scheme (PBS) [19].

In Australia, there is no doubt that CAM has become a widely used form of healthcare [28]. At least 30% of general practitioners (GP) report engaging in IM treatments and prescribe or recommend IM therapies [33]. Although Medicare does not cover most alternative therapies, certain treatments may be covered under specific circumstances [34]. IM practices in Australia are described as broader and overlapping with mainstream medicine [28], and there are no specific regulations directly governing the traditional legal status of traditional medicine and complementary/alternative medicine [35].

To establish common legislation for CAM, the EU created the CAMbrella project to develop a unique system encompassing CAM practices in Europe. According to CAMbrella data, 17 out of 39 European countries have established unified CAM legislation. The status of CAM in Europe is highly heterogeneous in various aspects, including terminology, methods, popularity, eventual legal status, regulations, and legislation. Previous studies have shown that CAM generally requires out-of-pocket payments [36], and it is increasingly integrated into national

health systems. In some European countries, public health insurance covers a range of CAM treatments, while private insurers cover part of CAM expenses in others. To accurately define the cost situation and insurance status of CAM, comprehensive reviews of CAM treatments' economic and health outcomes are included to assess their coverage [35, 36]

For instance, in Switzerland, there are multiple levels of healthcare protection [37]. Insured individuals can choose between minimum basic insurance and extensive insurance policies that provide complementary/alternative healthcare coverage. Reimbursement through mandatory social insurance is available for treatments provided by physicians with recognized postgraduate education. Treatments offered by non-mainstream physicians are not reimbursed. Private insurance companies' complementary/alternative medicine policies have influenced the Swiss government's decision to cover the most used therapies [37].

In China, the integration of traditional medicine into the national healthcare system and the combined training of healthcare practitioners have been formally promoted [38]. Approximately 5% of general hospitals have traditional medicine departments, and 50% of rural doctors in 149 villages in the Western Pacific Region can provide both traditional and conventional therapies [39]. The dual system of TCM has become a long-term component of China's national health policy [40]. In April 2009, the State Council issued the "Opinions on Deepening Healthcare System Reform" [41], emphasizing the importance of integrating traditional Chinese medicine and Western medicine as a guiding principle in deepening healthcare reform. The concurrent practice of traditional medicine and Western medicine at all levels highlights the integrated nature of China's medical system.

In Korea, CAM operates within a dual system of traditional and Western medicine. After the Korean War, the government renewed its interest in Oriental medicine, establishing Oriental medicine colleges and supporting Western medical schools [42]. Unlike in most countries, traditional Korean medicine is considered mainstream within the national healthcare system but

remains separate from Western medicine [43]. CAM accounts for 29% of out-of-pocket medical expenses in Korea. Since 1987, some CAM practices have been included in the National Health Insurance [42].

It is challenging to compare these countries, which operate under a universal healthcare system, with Japan, where Western medicine dominates. According to the 1948 Medical Practitioners Act No. 201[44], only Western-trained physicians can practice medicine, including Kampo (traditional Japanese medicine) [45]. However, there are no restrictions on the types of medical procedures physicians can use. Japan's healthcare system is unique globally because it is the only country where modern and traditional medicine are integrated into daily practice. Today, Japanese physicians receive training in conventional medicine and combine high-tech biomedical practices with Kampo in clinics and even university hospitals [46]. Japan does not differentiate between traditional and mainstream medicine; both formulations are subject to the same regulations. As of 2012, the National Health Insurance coverage list included 148 Kampo prescriptions and 187 crude drugs (Moschik et al., 2012) [46-48]. Acupuncture, moxibustion, traditional Japanese massage, and judo therapy are also covered by the National Health Insurance[47].

The first alternative medicine hospital in Brazil is in Goiás. Heads of Medicines Agencies (HMA) was founded in August 1983, specializing in alternative medicine and treating patients through various therapies under the Unified Health System (SUS). Brazil's regulations governing traditional medicine include La Política de Atención Integral a la Salud Indígena de FUNASA, which promotes respect for the traditional health systems of indigenous communities [49]. Since 1995, the Federal Pharmacy Council has recognized and regulated the title of "specialist in homeopathic pharmacy". 1988 the government acknowledged homeopathy and incorporated it into the national healthcare system [50].

From all this information, it is found that IM affects different national and private insurance regulations and impacts public health and primary care.

Worldwide situation - Education situation

Medical schools worldwide are integrating IM into their curricula to increase awareness of the widespread use of these modalities and to understand their safety and effectiveness when integrated into traditional medical settings [51]. Among U.S. medical schools surveyed on CAM teaching, 64% offer CAM courses, but most are not mandatory, with familiar topics including chiropractic, acupuncture, homeopathy, herbal medicine, and mind-body techniques [52].

Many IM programs (61.6%) aimed to provide "a broad survey of complementary and alternative medicine and its diversity"[53, 54], but some described sit with traditional healers to teach practical problem solving [55], and there are also online IM elective courses that can increase their understanding of the benefits and potential risks of IM for specific outcomes [56]. Support for integrating IM into general practice among RACGP Fellows and members in Australia was also demonstrated through establishing the IM Specific Interest Network within the RACGP Specific Interest Committee in 2009[57]. In addition, in the United States, funded by the National Centre for Complementary and Alternative Medicine of the National Institutes of Health, the project aims to incorporate CAM information into the curriculum of traditional health vocational schools, with the long-term goal of accelerating the integration of CAM and traditional medicine [58].

Worldwide IM situation

Between 30% and 50% of adults in developed countries use complementary and alternative medicine (CAM) to treat or prevent health problems [59]. Nearly half of the population in many industrialized countries now regularly uses some form of T/CAM (in the United States, the

proportion of individuals reporting using at least one of the seven methods increased from 19.2% in 2002 to 36.7% in 2022 [60]; Australia According to data from the Australian Complementary Medicine Association, more than 70% of Australians use complementary medicine and natural therapies [61]; France 31.2; Germany[62]; Canada, In 2016, 79% of Canadians had used CAM [63], and it is widely used in many developing countries (China, 60% [64]; Chile, about 55%[26,65]; Colombia, 40%; African countries up to 75%[66]). CAM use in Southeast Asia ranges from 20% to 97.4% [67]. Despite advances in conventional medicine, more than 70% of the population in developing countries still rely on CAM treatments [68].

Women were found to use CAM more than men [69], and CAM users were more likely to be female, well-educated, and middle-aged [68,70].

CAM use is associated with various socioeconomic, demographic and health indicators in studies. At the national level, we found that national health expenditures were positively associated with the prevalence of holistic and physical CAM treatments [71]. Thus, more excellent resources are common predictors of CAM use at individual and country levels. At the individual level, more excellent resources may affect CAM use through out-of-pocket payments for desired treatments, thereby leaving those with fewer resources less able to seek treatment. At the national level, more excellent resources may be related to the degree of integration of CAM with traditional healthcare systems [72]. 60% of patients not taking CAM were interested in learning more [73]. One should explore the field of CAM and recognize the evidence behind specific CAMs to provide sound advice to patients and utilize them in selected [74].

1.2 Integrative Medicine (IM) in Japan

Population aging is a global issue faced by both developed and developing countries. Japan's aging population is severe according to the "2021 Statistical Handbook of Japan", ranking 11th globally [75]. This rapid aging and advanced health transition era is placing increasing pressure

on the sustainability of its healthcare system [76]. Japan is one of the most successful countries in the world based on various health indicators. However, the level and speed of health progress are not uniform nationwide, with growing concerns over increasing health disparities across Japan and its prefectures [77]. It is noteworthy that income inequality contributes to health disparities. Japan's poverty rate is lower than that of the United States and South Korea, roughly on par with Spain or Italy, higher than Canada or Germany, and twice that of France or the Netherlands [78]. Additionally, regional and educational differences are associated with health disparities in Japan [76].

Japan implemented universal health insurance in 1961[79]. Early on, Kampo medicine, doctorprescribed vitamins and topical non-steroidal anti-inflammatory drugs (NSAIDs) were included in health insurance coverage. The first batch of Kampo formulas was covered in 1967, and Japan now covers 147 types of Kampo formulations and one topical Kampo ointment [47]. Only licensed practising physicians in Japan are authorized to diagnose and treat patients using various traditional medicines alongside Western medical treatments [80]. Most physicians (over 80% of surveyed Japanese physicians) prescribe Kampoin daily clinical practice [46,81]. Japanese doctors recommend Kampo as the most recommended form of CAM [82]. Additionally, through physicians and pharmacists trained in both biomedicine and traditional medicine, as well as acupuncturists, traditional biomedicine and traditional medicine are integrated into the coverage of universal healthcare [47]. In some instances, acupuncture, moxibustion, massage, anma (massage), shiatsu, and judo therapy provided by specialists can also be included in health insurance coverage. However, Japan's health insurance system does not cover yoga, meditation, music therapy, and other CAM modalities [47].

The situation in Japan should garner significant attention, as Japan is a unique country where highly advanced modern Western medicine coexists with traditional Asian medicine [83]. In stark contrast to the United States, the Japanese government has slowly shifted its stance towards CAM. This is partly because the government has long recognized traditional medical

practices such as acupuncture and Kampo as legitimate medical treatments [83]. From the perspective of extending healthy life expectancy, the Japanese government is considering further promoting the IM [84].

In 2013, the Ministry of Health, Labour and Welfare (MHLW) of Japan defined IM through its "Ideal Approach to IM" research group as: "IM is based on modern Western medicine and supplemented with complementary, alternative, and traditional therapies. This kind of medical treatment improves the quality of life under the guidance of doctors and involves multiprofessional cooperation in some aspects[85]." However, for the promotion of IM, gaining the trust of patients and the public is paramount. The public is particularly interested in the efficacy and safety of these practices. Therefore, providing reliable information that can be easily conveyed to those seeking consultation is crucial.

The Japan Society for Oriental Medicine (JSOM) has prepared Evidence Reports of Kampo Treatment (EKAT), which list recent clinical research findings, including randomized controlled trials, on the JSOM website [80, 86]. The "Evidence-based Japanese Integrative Medicine" (eJIM) website also features a series of articles on topics such as acupuncture and moxibustion [87, 88].

In China and South Korea, graduating from a university specializing in TCM or Korean Medicine qualifies one to become a doctor in their respective systems. However, in Japan, there is no such qualification; one must graduate from a traditional biomedical medical school [92]. Currently, there needs to be a university dedicated to teaching Kampo medicine. The situation of IM in Japan is based on modern Western medicine, where combining complementary, alternative therapies, and traditional medicine further enhances the quality of life (QOL) under physician guidance and, in some cases, involves collaboration with multiple professions. Furthermore, given the current circumstances, applying this definition to provide comprehensive IM takes time and effort.

The use of CAM among Japanese citizens is becoming increasingly common. Although patients frequently request advice on CAM from physicians, almost all specific treatments lack sufficient evidence for their effectiveness or side effects [83]. In Japan, 78.9% of CAM users do not inform their physicians about CAM usage [90]. Therefore, Japanese medical schools should provide foundational IM education [91].

1.3 Purposes

According to the Academic Consortium for Integrative Medicine and Health, there needs to be adequate education for physicians and other healthcare professionals regarding CAM methods despite high interest among medical professionals in CAM education [92]. IM Medical professionals and hopefully physician-led will provide integrated traditional Chinese and Conventional medicine. To achieve this, medical universities must provide primary education in IM.

Previous studies related to IM have conducted surveys on Oriental medical education [93], the status of Kampo education in universities [94], and alternative medicine in nursing universities [95]. However, these surveys did not include results related explicitly to IM. Moreover, there has yet to be a comparative investigation of IM education across medical schools, dental schools, pharmacy schools, and nursing schools.

This study examines the actual state of IM education, including non-traditional therapies, within core curriculum courses across medicine, dentistry, pharmacy, and nursing. It will also investigate the practical status of integrative education within these disciplines.

Additionally, a WHO survey conducted in South Asia highlighted that the primary failure in primary healthcare is the disconnect between policy and practice [12]. The IM into primary healthcare requires government support and policymaking, with effective communication, professional collaboration, and training playing a significant role at all stages of integration [96].

In Japan, local government initiatives promoting and funding IM projects aim to foster a social model of integrative medicine. This model focuses on preventing various diseases and health promotion and provides increased employment opportunities and career paths for young people. Under this framework, the goals of disease prevention and health promotion through IM require assurance of project quality. However, there has been no national survey of what projects are being carried out, and the actual status still needs to be clarified. Therefore, a fact-finding survey on Japan's local government IM health promotion plan projects is necessary. This study conducted a fact-finding survey of disease prevention and health promotion programs conducted by local governments. Search for the actual status of projects and understand the types and trends of these projects to understand the impact of these plans after implementation. It aims to examine the actual status of these projects, identify the types and trends of these initiatives, and understand their impact following implementation.

Based on this information, it is believed that an in-depth understanding and analysis of IM in Japan is necessary, and the results of this analysis can be used as a reference for the development of IM in other countries. The study will discuss the findings from a medical and social model perspective. The results will clarify the current state of IM practice by local governments in Japan and provide recommendations for future improvements or enhancements. This research will serve as a reference for implementing integrative medicine in Japan and other countries.

1.4 Thesis outline

- Core Values of IM.
- Status of situation of IM in Japan
- The importance of IM education into national health promotion plan policies
- Educational challenges and improvement directions
- Execution issues of health promotion programs
- The impact of the educational model and social model of IM on primary care

• Global reference value and future direction in IM

Chapter 2. Literature Review

2.1 Medical model of Integrated Medicine (IM) in Japan

IM is a coordinated approach combining traditional, complementary, and alternative therapies. According to the National Centre for Complementary and Alternative Medicine (NCCAM), IM is a diverse group of medical and healthcare systems, practices, and products not currently considered part of traditional Western medicine [97]. By adding CAM to Western medicine, IM promises to extend healthy lives. Modern doctors strive to treat the whole person, not just the disease. Therefore, the patient's lifestyle habits, mind, body, and soul should be considered to promote health.

2.1.1 Educational Status of Traditional, Complementary, and Alternative Medicine Worldwide

Countries worldwide must emphasize the continuity of healthcare services to meet the needs of chronic disease prevention, symptom management, and an aging population. However, as consumer expectations for healthcare continue to rise, government burdens are seeking new solutions. As a result, traditional and complementary medicine is regaining attention because it is accessible, affordable, and acceptable to residents [98].

Since the publication of a WHO report in 2002, more countries have recognized the potential contributions of TCM to individual health, well-being, and the comprehensiveness of their national healthcare systems. According to Resolution WHA62.13 on Traditional Medicine, the objectives of the Traditional Medicine Strategy were recently updated, demonstrating WHO's support for developing TCIM [26]. This support aims to provide safe and effective traditional healthcare and complementary services as part of medical services and self-care, thereby promoting universal health coverage [27]. These goals are pursued through three strategic objectives: (1) establishing knowledge bases and national policies; (2) enhancing safety, quality, and efficacy through regulation; and (3) integrating traditional medicine services and self-care into national health systems to promote universal health coverage (Organization, 2017). At the first Global Summit on Traditional Medicine held by WHO's Global Centre for Traditional Medicine in Jamnagar, WHO Director-General Tedros urged "all countries to commit to researching the best ways to incorporate traditional and complementary medicine into their national health systems" [99].

One of the main policy directions is to strengthen communication between medical doctors (MDs) and TCAM providers (TCAMPs). Developing appropriate TCAM training programs for

MDs and medical students is crucial to integrating traditional and Western medicine [100]. The IM in the United States recommended the inclusion of TCAM education for medical professionals at both undergraduate and graduate levels. By 2001, at least 75 of the 125 medical schools in the U.S. offered some form of CAM training. Academics and health officials hope that future physicians will learn integrative approaches and incorporate them into their daily care recommendations to improve public health [101]. The goals of TCAM education are to equip BMDs (Biomedical Doctors) and medical students with the following competencies:

1. Knowing how to inquire about patients' use of TCAM. 2. Familiarize with the most used TCAM. 3. Being able to recommend reliable sources of information to interested patients. 4. Knowing how to obtain reliable information on the safety and efficacy of TCAM [102]. These competencies will enhance communication between physicians, medical professionals, and patients

2.1.1 The status of education on traditional and complementary medicine in Japan

Japan's health system has excellent indicators, achieving the highest life expectancy at a relatively low cost compared to other OECD countries. The traditional medical system (TRM) is also well integrated, with universal insurance coverage and prevention being two important foundations [103].

Japanese government stated: "We will seek specific ways to promote the IM to extend healthy life expectancy" [84]. IM treatment is about how to break the limitations of treating specific diseases. The most important aspect of combining traditional Western therapies with alternative therapies is that patients achieve a state of health, not just the absence of disease [104], which echoes modern Western medicine practitioners' commitment to treating the whole person and not just the disease. In 2013, the "Integrated Traditional Chinese and Western Medicine Research" group of the Ministry of Health, Labor and Welfare of Japan pointed out: "IM is based on modern Western medicine, supplemented by complementary, alternative, or traditional

therapies. This kind of medical treatment improves the quality of life under the leadership of doctors, in some cases, collaboration with multiple professions. "That is, IM should be provided by professional doctors (mainly doctors). For this purpose, medical schools should provide basic education in IM. "IM" is based on the above situation. "On the premise of modern Western medicine, complementary/alternative therapies and dissemination further improve QOL (Quality of Life) by combining traditional medicine. If medical treatment is needed to improve the condition, it is led by doctors. This is a multi-professional collaboration [85]. "Integrated healthcare is not limited to services provided by medical professionals, but includes people other than doctors, etc. It can provide more and can also be used by users themselves.

The Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) develops core courses for educational models for universities in medicine, dentistry, pharmacy and nursing. Every university is required to provide education based on this core curriculum. Therefore, incorporating IM into national examination standards can further accelerate the integration process of medical education. It is recommended that a lecture outline be developed based on the core curriculum.

2.2 Social model of Integrated Medicine (IM) in Japan

Interest in IM is growing as people seek a more holistic approach to health. TCAM may help prevent and treat behavioural and lifestyle-related infectious and chronic diseases [17-19].

Many IM health promotion programs focus on lifestyle changes, such as healthy diet, exercise, stress management, and mind-body techniques, to promote health and prevent chronic disease [23, 32]. These programs typically involve multiple different health professionals who work together to provide personalized care tailored to each person's needs [19]. The use of CAM is increasing in developed countries as disease-induced morbidity and mortality change and personal health awareness increases [71].

The definition of integrative medicine differs in each country. IM is widely accepted and integrated into healthcare, whereas in some countries it may still be viewed as an alternative or complementary [83]. Therefore, the effectiveness of IM health promotion programs may vary worldwide, depending on cultural differences, healthcare systems, and resource availability.

In Japan, due to the transformation of the demographic structure, with low birthrate, aging, population reduction and the development of a single society, the structure of society and disease is changing, which also affects the medical system [104]. The traditional medical system alone cannot meet the diverse medical and social needs, and the demand for IM systems continues to grow.

IM promises to extend a healthy life. Modern doctors strive to treat the whole person, not just the disease. Therefore, consider the harmony between nature and people to achieve a sustainable society, re-understand natural healing abilities such as natural immunity [105], and integrate living habits, mind, body, and soul to promote health. To meet such needs of the medical system, the practice of "medical model" and "social model" based on "IM" combines traditional medicine, complementary and integrative medicine with modern medicine, a coordinated approach [106]. IM is a key project in the health promotion program, a health promotion program to prevent various diseases and improve their health. However, how this plan is currently being implemented and how it is being implemented is still being determined. A nationwide investigation has yet to be launched, and the situation still needs clarification. Doctors should provide IM, and medical staff should participate in the health plan and play an important role in delivering information. Many comprehensive disease prevention and health care projects include aromatherapy, yoga, qigong, Kampo medicine, and medicated diet. Japanese local governments have a plan to prevent disease and promote health. Projects were carried out by local government leaders who are not medical experts or necessarily trained and certified professionals. However, these programs have been formulated to prevent these diseases and promote health.

The Japanese government hopes to promote a social model of IM. This social model provides various disease prevention and health promotion, employment opportunities, and directions to more young people. In this case, disease prevention and health promotion goals combined with IM must ensure the program's quality. There has yet to be a national survey of what projects are being carried out, and the actual status still needs to be clarified. Therefore, local governments conducted a fact-finding survey on disease prevention and health promotion programs in this study. Search for the actual status of projects and understand the types and trends of these projects to understand the impact of these plans after implementation.

2.3 Analysis and of the current situation of Integrated Medical (IM) in Japan

Japan's IM integrates traditional medicine (TM), traditional complementary and alternative medicine (TCAM), and modern medicine to improve health outcomes and QOL. This model emphasizes a "holistic view of health" and goes beyond simple disease treatment to include patients' living habits, psychological state and natural therapies. It mainly shows potential in the management of aging and chronic diseases. As the WHO has promoted traditional medicine strategies since 2002, the Japanese government has actively responded by introducing TCAM into medical education and policies, strengthening communication and cooperation among doctors to promote universal health coverage. Local governments have launched several IM health promotion programs, focusing on lifestyle adjustments and disease prevention. However, these programs are often led by officials with non-medical backgrounds and need more national standards and supervision, resulting in uneven implementation effects and quality. This study aims to investigate the IM plans implemented by local governments, analyse the plan types, trends and actual impacts, hoping to provide empirical evidence for future policy formulation and plan optimization, and promote the in-depth development of the IM.

3.1 Methodology

In the published documents regarding the core curriculum, national examination standards and syllabuses in the academic year 2020, we analysed whether they include IM.

3.2 National core curriculum for education

Core curriculums for medicine, dentistry, pharmacy, and nursing universities were obtained from the website of MEXT.

3.3 National examination standard

National examination standards for medical doctor, dentist, pharmacist, and nurse license were obtained from the website of MHLW.

3.4 Syllabuses of lectures in each university

The homepages of all Japanese universities are recorded periodically in the Web Archiving Project (WARP) of National Diet Library of Japan. Syllabuses of lectures of medicine, dentistry, pharmacy, and nursing universities in the 2018 educational year were obtained from the homepages of each university recorded in WARP. Syllabuses of lectures of medicine, dentistry, pharmacy universities were limited to the 6-year courses to get national licenses. Syllabuses of nursing universities were limited to the 4-year courses in universities to get national graduate nurse licenses.

3.5 Search of Integrative Medicine

The searching term of integrative medicine in the documents were based on the names of remedies frequently used in Japan [107], they are as follows: Acupuncture/moxibustion, Aromatherapy, Ayurveda, Bone setting (Seitai), Chiropractic, Dietary therapy, Fasting therapy, Forest therapy, Heat therapy, Homeopathy, Hot spring therapy, Kampo, Magnetic therapy, Massage, Music therapy, Qigong, Supplements/health foods, and Yoga. In addition, other non-modern and nonconventional remedies were also picked up. Of course, comprehensive terms such as "integrative medicine", "complementary medicine", "alternative medicine", "traditional medicine" and "holistic medicine" were also picked up.

3.6 Search for Integrative Medicine (IM) health-promotion programs in Japanese local governments

The National Diet Library of Japan maintains a website (Web Archive Project: WARP.

https://warp.ndl.go.jp/?_lang=en) [108] to preserve the websites of all 1,944 Japanese local governments four times per year (Figure 1, 2). We extracted the IM programs, including IM vocabulary, from the four recordings of the websites of each local government archived on WAPR in 2018. Types of IM, the qualifications of providers, the number of times programs, and the purpose of programs were searched.



URL:http://warp.da.ndl.go.jp/collection/localgovernment/ Figure 1. Search screen for local governments in WARP.

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Figure 2: Example of the website preservation date (Ageo City)

3.7 Analysis of Integrative Medicine (IM) programs

The programs of IM extracted in WARP were analysed according to the classification of IM in the "Information Site for Evidence-based Japanese Integrative Medicine (eJIM)" [109] (Table 1).

Name of integrative medicine				
Acupuncture and Moxibustion	Kampo*			
Aromatherapy	Magnetic Therapy			
Ayurvedic Medicine	Massage Therapy			
Balneotherapy	Medical Diet			
Bonesetter	Music Therapy			
Chiropractic	Supplements / Health foods			
Fasting Therapy	Thermotherapy			
Forest Therapy	Qigong (Tai Chi) **			
Holistic Therapy	Yoga			
Homeopathy	Others			

Table 1. Types of integrative medicine extracted from WARP

*Kampo medicine followed ancient Chinese medicine, and Japan modified it to adjust to conditions in Japan [89, 107]. Kampo medicine in this research does not include Kampo medicines/products prescribed by physicians at clinics or hospitals.

**Qigong: sessions incorporate a wide range of physical movements, including slow, meditative, flowing, and dance-like motions.

3.8 Data analysis

Data were analysed using Microsoft Excel (Microsoft 365 Apps): the mean (arithmetic mean) and percentage of the parameters were calculated.

3.9 Data availability

Not all the syllabuses were open to the public. It is unclear whether syllabus-based IM is implemented. Also, we do not know the reasons why not all universities introduce IM positively. The information outlined in the Materials and Methods section about the search for IM health

promotion programs within Japanese local government can be accessed through the WARP website. Additionally, the search for names of IM can be freely and openly obtained on the "Information Site for Evidence-Based Japanese Integrative Medicine".
4.1 Model core curriculum

In the model core curriculum of the medical education of the 2001 first edition, Kampo medicines were required to be educated, but the requirement was brief. The requirements were changed to more concrete phrases by the revision in 2016 (Table 2). Today, the indications and pharmacological effects of Kampo medicines, and characteristics of Kampo medicines are required to be educated. However, the other kinds of integrated medicine are not required to be cover.

Table 2 The status of integrative medicine in the model core curriculums for medical education in

 Japan

2001 edition	
$F_{-}2_{-}(1)$	Basic principles of drug treatment
L-2-(1)	Attainment target: 17) Can outline Wakan-Yaku.
2007 edition	
E-2-(1)	Same as 2001 edition
2010 edition	
	Basic principles of drug treatment
F-2-(1)	Attainment target: 17) Can outline the characteristics and the Current
	specification of Wakan-Yaku (Kampo medicines).
2016 edition	

Basic principles of drug treatment

Learning objectives:

F-2-8) [13] Can outline the characteristics of Kampo medicines, the indications, and pharmacological effects of the principal Wakan-Yaku (Kampo medicines).

2022 edition

[14] Understand an overview of the characteristics of Chinese medicine,

CS-02-04 indications of major Japanese and Chinese herbal medicines (Kampo medicine), and their pharmacological actions.

*The meaning of "Wakan-Yaku" is same as that of Kampo medicines.

The model core curriculum for dental education of the 2001 first edition and the 2010 revised edition did not describe integrative medicine even Kampo medicines. The 2016 revised edition (Table 3) contains a description of Kampo medicines as one of conventional medicines, and the classification, pharmacological action, application and pharmacokinetics, and side effects/adverse reactions are required to be cover. However, the other kinds of integrated medicine are not required to be covered in the same way as medical education.

 Table 3 The status of integrative medicine in the model core curriculums for dental education in

 Japan

2016 edition

Drugs and Pharmaceutical products

C-6-1) Intention: Understand the classification of pharmaceutical products and the relationship between drugs (including Wakan-Yaku) and pharmaceutical products.

Pharmacologic action

C-6-2) Intention: Understand the basics of the action of drugs (including Wakan-Yaku).

Drug application and pharmacokinetics

C-6-3) Intention: Understand the in vivo kinetics of applied medicines (including Wakan-Yaku)

Side effects and adverse effects of drugs

C-6-4) Intention: Understand the types of side effects and adverse events of medicines (including Wakan-Yaku) and the essential matters related to their preventive measures.

2022 edition

Basics of pharmacological action

A-6-2

Understand the basic concepts of drug actions (including Kampo medicines)

A-6-4 events of drugs Understand the basics of medication in consideration of the types of adverse reaction and adverse events of drugs (including Kampo medicines) and the effects of continuous and concomitant use.

*The meaning of "Wakan-Yaku" is same as that of Kampo medicines.

In the model core curriculum for pharmaceutical education of the 2002 first edition (Table 4), it required education of Kampo medicine including traditional medical theory, constitutional crude drugs for formulations, and decoction, which are not required in the other core curricula. Notable description in this edition is "Can explain the difference between Kampo medicine and alternative medicine", which indicates that Kampo medicine is not considered to be alternative medicine in Japan.

In the model core curriculum for pharmaceutical training added in 2004, the practical training for dispensing Kampo medicines in pharmacy was also required. These were revised to more concrete phrases by the revision in 2013(Table 4). Besides of Kampo medicine, the 2002 model core curriculum for pharmaceutical education also required the explanation of health foods and supplements. This still has been listed in the 2013 current edition. The other kinds of integrated medicine are not required to be covered.

 Table 4 The status of integrative medicine in the model core curriculums for pharmaceutical
 education in Japan

2002 edition

Crude Drugs and Kampo medicines in modern medical treatment General goal: Master the basic knowledge and skills on the concept of Kampo medicine, application of typical Kampo prescriptions and drug efficacy

C-7-(3) evaluation methods to understand the crude drugs and Kampo medicines used in modern medical treatment.

[Basics of Kampo medicine]

[Application of Kampo prescriptions]

Community Pharmacy

[OTC drugs and self-medication]

C18-(3) Attainment target:

3) Can outline Kampo medicines, lifestyle-enhancing drugs, dietary supplements, and health functional food.

2004 additional edition for pharmaceutical training

	Pharmacy items and management
(III)-(1)	[Pharmacy preparations]
	4. Can outline typical pharmacy preparations and Kampo preparations.
	5. Can dispense typical pharmacy preparations and Kampo preparations.
(III)-(4)	Learn at the pharmacy counter
	[OTC drugs / medical devices / health foods]

5. Can select and supply OTC drugs, medical devices, health foods, etc. for self-medication appropriately. (Skill)

2013 edition	
	Dharmonist intervention required modicines OTC drugs and self-modication
	r harmacist intervention required medicines. OIC drugs and self-medication
E2(9)	6. Can explain the principal curing methods (including exercise/diet,
	supplements, and foods with health claims) and their significance in
	maintaining and promoting health.
	Kampo medicines in medical treatment
	GIO (General Instructional Objective): Master basic matters such as the
	concept of Kampo medicine, the concept of diseases, and indications, side
E2(10)	effects and precautions of principal Kampo medicines.
	[1] Basics of Kampo medicines
	[2] Application of Kampo medicines
	[3] Precautions for Kampo medicines
	Prescription-based dispensing
F (2)	7. Can outline pharmacy preparation and Kampo products.
	Participation in community health, medical care, and welfare
F (5)	[3] Practice of primary care and self-medication preparations (including
	Versus and set in the set incloation preparations (monuting
	Kampo preparations)

2022 edition

Fundamentals of Pharmacognosy and Natural Product Chemistry
<Objectives>_

C-5-1 To handle Kampo medicines used in herbal medicines and medicines that uses of the original plants, animals and minerals.

To develop basic knowledge of the origins, characteristics, uses and ingredients of herbal medicines to use natural products as medicines.

1) Explain the concept of Kampo medicine, the concept of disease in Kampo medicine, and the differences between the concepts of Western medicine and Kampo medicine.

2) Understand the indications and adverse reactions (side effects) of representative Kampo medicines, precautions for use, etc., and explain the basis for applying Kampo therapy to symptoms and diseases.

D-2-19

<Study items>

(1) Symptoms, symptoms, and diseases for which Kampo medicines are indicated [1)]

(2) Systematic classification of Kampo medicines based on the combination of herbal medicines [2]

D-2-20 Self-care, self-medication

<Learning Objectives>

1) Appropriately determine typical symptoms and situations that should not be overlooked and explain the basis for dividing symptoms and pathological conditions into those recommended for medical consultation, self-care, and self-medication.

2) When recommending prescription drugs or over-the-counter drugs, understand the basic points necessary for appropriate selection and explain the importance of considering the patient's living situation.

3) Explain the interactions between prescription drugs and over-the-counter drugs and medical drugs, foods, etc.

<Learning Topics>

(1) Typical symptoms and related diseases that are targets of self-care and selfmedication [1), 2)]

(2) Prescription drugs, over-the-counter drugs, and pharmaceutical drugs manufactured and sold by pharmacies [1), 2)]

(3) Special dietary foods, health functional foods, so-called health foods, etc.[2), 3)]

(4) Effects of diet, exercise, etc. [1), 2), 3)]

Analysis and evaluation of drug information

<Objectives>

In this subsection, students will review what they learned in "B-1 Responsibilities of Pharmacists," understand that pharmaceutical information in medical care can affect people's lives and is the basis for providing the best and most optimal drug treatment, recognize the importance of evaluating information, and acquire the ability to analyze and evaluate collected pharmaceutical information using what they learned in "B-5 Use of Information and Science and Technology."

"Connections with other fields and topics"

D-3-3 Topics closely related to learning this subsection: "B-1 Responsibilities of Pharmacists," "B-5 Use of Information and Science and Technology"
Topics to connect to after learning this subsection: "E-1 Public Health for Maintaining and Promoting Health," "F-1 Practice of Drug Therapy," "F-3 Practice of Medical Management and Medical Safety," "F-4 Contribution to Community Medical Care and Public Health"

<Learning Objectives>

1) Analyze and evaluate information collected for research purposes while considering the quality, reliability, and validity of the evidence of the information. 2) Explain the relationship between types of research design and the quality of evidence.

3) Explain the concept of evidence-based medicine (EBM) and put the process into practice.

4) Critically examine clinical research papers in accordance with the research design and appropriately interpret the results.

5) Appropriately analyse and evaluate the effectiveness of drugs using collected information.

6) Appropriately analyse and evaluate the safety of drugs using collected information.

7) Appropriately evaluate the effectiveness and safety of foods for special dietary uses, foods with health claims, and so-called health foods.

<Study items>

(1) Meaning and methods of information evaluation [1)]

(2) Research design and intended use, quality of evidence [2)]

(3) EBM process [3)]

(4) Critical examination of clinical research papers [4)]

(5) Evaluation of efficacy and safety of drugs [1), 2), 3), 4), 5), 6)]

(6) Evaluation of information related to medical care other than drugs [1), 2),(3), 4), 7)]

Promoting disease prevention, health maintenance and improvement for residents, and contributing to nursing care and welfare

<Objectives>

F-4-1

With an eye on the social systems and social contributions expected of
pharmacists learned in "B Society and Pharmacy," students will utilize the
knowledge of disease prevention and health management learned in "D
Medical Pharmacy," self-care and self-medication learned in "D Health
Pharmacy," and nutrition and food hygiene learned in "E Hygienic Pharmacy"
in actual clinical practice and in the local community to support residents'
actions that lead to disease prevention and health maintenance and promotion,
practice primary care, and acquire the ability to actively participate as a leader

in community-based care while working with multiple professions.

"Connections with other areas and topics"

Topics closely related to learning this subtopic

"B-1 Responsibilities of pharmacists", "B-2 Sociality expected of pharmacists", "B-3 Activities of pharmacists in society and the community", "B-5 Use of information and science and technology", "D-1-2 Pathological changes in the body", "D-2-20 Self-care and self-medication", "E-1 Public health to maintain and improve health"

<Learning objectives>

1) As a health consultation centre for local residents to maintain their own healthy lives, actively provide useful knowledge and information, and create an environment where appropriate advice can be easily received, thereby supporting the maintenance and management of the health of local residents.

2) Understand the role of family pharmacists in the community-based comprehensive care system, promote community cooperation to improve the care and welfare of residents, and work hard to maintain and improve the living environment and quality of life (QOL).

3) Utilizing epidemiological data on medical care, health, nursing care, welfare, etc. in the region, understand the health status of residents and issues in the medical care, health, nursing care, welfare environment, etc. unique to the region, and consider and propose initiatives to improve these issues based on scientific evidence.

<Study items>

(1) First access for health consultations, nursing care, and lifestyle consultations, and the role of pharmacies [1)]

(2) Evaluation and improvement of diet (nutritional management, health foods, etc.) and exercise, etc. (basic lifestyle factors and mental factors) [1)]

(3) Information gathering and clinical judgment during health consultations and corresponding primary care for residents (encouragement to visit a doctor, emergency response, recommendation of over-the-counter drugs, lifestyle guidance, etc.) [1)]

(4) Prescription drugs, over-the-counter drugs, drugs manufactured and sold by pharmacies, medical equipment, sanitary materials (1)

(5) Participate in activities that contribute to maintaining and improving the health of individual local residents (non-smoking guidance, oral care, prevention of lifestyle-related diseases, preconception care, etc.) (1)

(6) Participate in consultations and community cooperation activities related to care prevention and welfare to promote comprehensive community care (2)

(7) Evaluation and utilization of scientific data on health and epidemiological data on medical care, health, care, welfare, etc. in the community (3)

* No other description for IM

The model core curriculum for nursing education was published in 2017 (Table 5) and remains current. This also required to educate "Can explain the action and its mechanism, indications, adverse events, and nursing assistance of principle Kampo medicines". The other learning objective listed in Table 1, "Can explain the evidence and status of alternative therapies" is notable, but the kind of alternative therapies is not explained concretely.

 Table 5 The status of integrative medicine in the model core curriculums for nursing education in

 Japan

2017 edition

Tests and treatments used for diagnosing disease

C-5-2) Learning objectives:

[10] Can explain the evidence and status of alternative therapies.

Human reaction to drugs and drug administration

Learning objectives:

C-5-4)[7] Can explain the action, mechanism, indications, adverse events, and nursing assistance of principal Kampo medicines.

*In 2024, a draft concept of the new version has been published. (Only Japanese) https://www.mext.go.jp/content/20240619-mxt_igaku-000036627-1-4.pdf

*No Kampo description and No IM description in this concept.

4.2 National examination standards

For the medical license (Table 6), "Foods with health claims, foods for dietary uses, health foods" is mentioned in the section "prevention and health management/promotion". However, there is no

description of Kampo medicine despite that being a topic that is required to be covered in the core curricula for medical education.

For the dental license (Table 6), Kampo medicine is listed in the section "Treatment" and "Diseases, conditions, prevention, and dental care regarding elderly, sick, and disabled persons that require special attention". However, these are all supplementary matters, not important matters.

For the pharmacist license (Table 6), the systematic classification of Kampo medicines by combining crude drugs, the outline of diagnostic methods in Kampo medicine, how to understand constitution and pathology (yin/yang, deficiency/Excess, sho (clinical patterns), etc.), and the side effects and precautions for their use of Kampo medicines are listed. In addition, the usage method, and precautions (including side effects and interactions) of the selected in-pharmacy Kampo formulations, health foods and supplements are listed in the section "Pharmaceutical clinical practice".

For the nurse license (Table 6), the health support and social security system mention health foods. However, there is no description of Kampo medicine.

Table 6 Integrative medicine in national examination standards in Japan

For Medical Practitioners (2018)

[No description on Kampo]

For Dentist (2022)

General

VII Treatment

8. Drug therapy

A. Choice of drug

a. Types and characteristics of pharmacotherapy

Remarks: Wakan-Yaku (Kampo medicines) *

- C. Drug therapy according to the disease
- h. Wakan-Yaku (Kampo medicines) *

Specifics

V Diseases, conditions, prevention, and dental care regarding elderly, sick, and disabled persons that require special attention

- 4. Clinical evaluation/diagnosis/treatment planning related to the elderly/sick person
- A. Evaluation of general condition
 - f. Drugs

Remarks: Wakan-Yaku (Kampo medicines) *

* Supplementary matters, not important matters)

For Pharmacist (2016)

Attached Table V Pathology/Drug treatment

Kampo in medicine

Basics of Kampo medicine

Can explain the systematic classification of Kampo medicines by combining crude

drugs.

Application of Kampo medicines

Can explain the outline of diagnostic methods in Kampo medicine, how to

understand constitution and pathology (yin/yang, false/truth, sho (clinical patterns), etc.)

Precautions for herbal medicine

Can explain with examples about the side effects and precautions for their use of Kampo medicines

Appendix VII

Pharmaceutical clinical practice

Dispensing based on a prescription

Primary care and self-medication

Can appropriately and clearly explain to visitors the usage method and precautions

(including side effects and interactions) of the selected in-pharmacy formulations

(including Kampo formulations), guidance-required drugs, over-the-counter drugs, health

foods and supplements, medical devices, etc.

For Nurse (2022)

Health support and social security system

8. Measures for the living environment in public health.

B. food and food safety

Health foods, special purpose foods

[No description on Kampo]

4.3 Syllabus

We surveyed 82 medical university courses, 29 dentistry university courses, 75 pharmacy university courses, 277 nursing university courses. Among them, the number of university courses published syllabus of the 2018 version on the website were: 65 university courses for medicine (79.3% of whole medical universities), 25 university courses for dentistry (86.2% of whole

dentistry universities), 70 university courses for pharmacy (93.3% of whole pharmacy universities), and 208 university courses for nursing (75.1% of whole nursing universities) (Table 7).

		Universit medicine (65 unive	ty of ersities) ¹	Unive Der (25 univ	ersity of ntistry versities) ¹	Unive Pha (70 univ	ersity of rmacy versities) ¹	Unive Nu (208 uni	ersity of rsing versities) ¹
		Educated	Educated as compulsory subject ²	Educated	Educated as compulsory subject ²	Educated	Educated as compulsory subject ²	Educated	Educated as compulsory subject ²
IM and	Number of universities	21	20	1	1	31	21	65	24
CAM ³	Ratio	32.3%	30.8%	4.0%	4.0%	44.3%	30.0%	31.3%	11.5%
Kampo	Number of universities	55	54	15	14	70	66	65	41
e	Ratio	84.6%	83.1%	60.0%	56.0%	100.0%	94.3%	31.3%	19.7%
Health foods	Number of universities	8	7	1	1	70	65	36	16
or Supplem ents	Ratio	12.3%	10.8%	4.0%	4.0%	100.0%	92.9%	17.3%	7.7%
Massage	Number of universities	3	2	0	0	5	3	61	35
e e	Ratio	4.6%	3.1%	0.0%	0.0%	7.1%	4.3%	29.3%	16.8%
Yoga	Number of universities	0	0	0	0	3	1	25	7
8	Ratio	0.0%	0.0%	0.0%	0.0%	4.3%	1.4%	12.0%	3.4%
Aromath	Number of universities	2	2	1	1	15	4	41	15
erapy	Ratio	0.0%	0.0%	0.0%	0.0%	21.4%	5.7%	19.7%	7.2%
Ampo ⁴	Number of universities	0	0	0	0	0	0	47	36
rinpo	Ratio	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	22.6%	17.3%
Music	Number of universities	0	0	0	0	3	1	41	10
therapy	Ratio	0.0%	0.0%	0.0%	0.0%	4.3%	1.4%	19.7%	4.8%
Others	Number of universities	4	4	2	2	30	19	71	21
Others	Ratio	6.2%	6.2%	8.0%	8.0%	42.9%	27.1%	34.1%	10.1%

Table 7 Number of universities and courses including integrative medicine in Japan

¹ The number of medical, dentistry. pharmaceutical and nursing universities were 82, 29, 75, and 277 in 2018.

² Several universities did not publish whether it is compulsory or not. This is the number of only universities that published compulsory/electives.

³ Term of "integrative medicine (IM)" or "Complementary and Alternative Medicine (CAM)"

⁴ Ampo: heat/cold therapy performed in Japan

In medical universities, the syllabus of 21 universities included the term "Integrative medicine/complementary and alternative medicine (CAM)" and it was 32.3% of the universities that opened them on the website. For individual integrative medicine, Kampo medicine was included in the syllabuses of 55 universities (84.6%). Health food/supplements were included in those of 8 universities (12.3%). But other kinds of integrated medicines were not confirmed.

In dentistry universities, 15 universities (60.0%) included Kampo medicine in their syllabuses, however, other integrative medicines were not confirmed.

In pharmaceutical universities, all universities included Kampo medicine and health food/supplements in the syllabuses. Aromatherapy was also found in the syllabuses of 15 universities (21.4%). The term "Integrative medicine/ CAM" was also found in 31 universities (44.3%).

In nursing universities, Kampo medicine was found in only 31.3% of universities. However, in contrast to the other types of universities, many kinds of other integrative medicine such as health food/supplements (17.3%), massage (29.3%), aromatherapy (19.7%), ampo (hot compress and cold compress, 22.6%), and music therapy (19.7%) were found.

The situation of other integrative medicine in the syllabuses is shown as supplement table 8.

	11 1	.1 .	· ·	.1	•	•	1
I able X of sy	vilabuses	that	mention	other	integrat	1Ve	medicine
	ynuouses	unui	monuon	ounor	megrai	1	meaneme

Types integrative medicine	Faculty of Medicine	Faculty of Dentistry	Faculty of Pharmacy	Faculty of Nursing
Acupuncture and moxibustion	3 (4.6%)		6 (8.5%)	16 (7.7%)
Relaxation				21 (10.1%)
Oriental medicine	1 (1.5%)		4 (5.7%)	14 (6.7%)
Ayurveda	1 (1.5%)		6 (8.5%)	3 (1.4%)
Anma (Japanese massage) Traditional				8 (3.8%)
Chinese medicine			5 (7.1%)	2 (1%)

Acupoint therapy			1 (1.4%)	6 (2.9%)
Acupoint therapy			1 (1.4%)	6 (2.9%)
Chinese medicine	1 (1.5%)		4 (5.7%)	1 (0.5%)
Homeopathy	1 (1.5%)		2 (2.9%)	3 (1.4%)
Pilates				6 (2.9%)
Diet therapy			3 (4.3%)	2 (1.0%)
Art therapy			1 (1.4%)	4 (1.9%)
Tai Chi			1 (1.4%)	4 (1.9%)
Acupoint stimulation				5 (2.4%)
Mindfulness				5 (2.4%)
Yakuzen (Dietary				
therapy based on traditional Chinese			3 (4.3%)	1 (0.5%)
medicine) Traditional medicine			2 (2.9%)	2 (1.0%)
Reflexology			1 (1.4%)	2 (1.0%)
Herbal therapy			1 (1.4%)	2 (1.0%)
aerobics				3 (1.4%)
Fragrance treatment				3 (1.4%)
therapy				3 (1.4%)
Qigong method				3 (1.4%)
Breathing method				3 (1.4%)
medicine			2 (2.9%)	
Korean medicine			2 (2.9%)	
Herbs and spices			2 (2.9%)	
Yunani medicine Yakushokudōge	1 (1.5%)		1 (1.4%)	
both medicines and food have the same origin)		1 (5.0%)	1 (1.4%)	
Exercise therapy			1 (1.4%)	1 (0.5%)

Hyperthermia	1(1.4%)	1 (0.5%)
Reminiscence		2 (1.0%)
Meditation		2 (1.0%)
Manual therapy		2 (1.0%)
Way of yin and		2 (1.0%)
yang		- (11070)
Ishokudōgen		
(Attitide that		
both medicine		2 (1.0%)
and food have		
the same origin)		

4.4 Integrative medicine (IM) implemented by local governments

A total of 1,739 IM programs were implemented in 537 local governments (27.6% among whole Japanese local governments) (Table 9). The types and number of IM health promotion programs implemented were Yoga 1,242 (71.4% of all IM programs), Qigong (Tai Chi) 211 (12.1%), Aromatherapy 145 (8.3%), Massage 47 (2.7%), Music therapy 32 (1.8%), and all others combined 40 (3.6%). In addition, the following IM programs were implemented, although in smaller percentages: Medicinal diet, Kampo medicine, Chiropractic, Moxibustion, Acupuncture, Diet therapy, Dietary education, Spa therapy, Ayurvedic medicine, Forest therapy, Supplements, and Health food.

Table 9. The IM programs practiced in Japanese local governments

		Percentage of IM		Percentage
Truess of DA	Number of DA		Number of local	among the
Types of IM	Number of five	program type	governments	number of local
implemented in	programs	implemented/total	implementing IM	governments that
local governments	implemented	number of IM	health program	implemented any
		programs delivered	Tearing brogram	IM
Yoga	1242	71.42%	278	14.30%
Qigong	211	12.13%	57	2.93%
Aromatherapy	145	8.34%	102	5.25%
Massage	47	2.70%	36	1.85%
Music therapy	32	1.84%	14	0.72%
Medicinal Diet	21	1.21%	14	0.72%
Kampo medicine	12	0.69%	11	0.57%
Chiropractic	8	0.46%	6	0.30%
Moxibustion	4	0.23%	3	0.15%
Acupuncture	3	0.17%	2	0.10%
Diet therapy	3	0.17%	3	0.15%
Dietary education	3	0.17%	3	0.15%
Supplements	2	0.12%	2	0.10%
Health food	2	0.12%	2	0.10%
Spa therapy	1	0.06%	1	0.05%
Ayurveda	1	0.06%	1	0.05%
Forest therapy	1	0.06%	1	0.05%
Other (CAM)	1	0.06%	1	0.05%
Total	1739	100.00%	537	27.62%

* All the subjects and implementers are provided with different durations and sessions. The table provides the total amount times implemented in all the subjects in 2018. A program held once, or multiple times weekly was considered one occurrence. It is important to note that the figures in Table 9 represent the count of programs scheduled by local government authorities, not the duration of participant engagement.

4.5 Implementation sessions per program

The frequency of implementation for Yoga, Qigong, Aromatherapy, and other programs was analysed, as shown in Table 10. Most programs were repeated for 11-20 sessions, with Qigong being the most repeated activity (25.8% for Qigong versus 18.6% for Yoga). Aromatherapy programs were usually held as single sessions (49%), while 30.9% and 45.1% of Yoga and Qigong programs were repeated for more than 10 sessions. The average number of sessions in a program was 6 for Yoga, 9 for Qigong, and 2 for Aromatherapy, and the weighted average values for Yoga, Qigong, and Aromatherapy were 8.0, 12.3, and 4.1, respectively. Additionally, there were several programs for which the number of sessions could not be identified.

Type of IM Yoga		Qigong	Aromatherapy	
	Number of programs	Number of programs	Number of programs	
Number of sessions in one	Percentage of program /all	Percentage of program /all	Percentage of program /all	
program	Yoga programs	Qigong programs	Aromatherapy programs	
1	167, 13.3% (2)	21, 9.9% (3)	76, 49.0% (1)	
2	88, 7.0% (8)	10, 4.7%	20, 12.9% (2)	
3	99, 7.9% (5)	11, 5.2% (7)	13, 8.4% (3)	
4	106, 8.4% (4)	7, 3.3% (8)	20, 12.9% (2)	
5	75, 6.0% (9)	5, 2.3% (9)	10, 6.5% (5)	

 Table 10 Number of sessions held in each IM program

6	89, 7.1% (6)	15, 7.0% (6)	0, 0.0% (12)
7	21, 1.7% (13)	1, 0.5% (10)	2, 1.3% (7)
8	57, 4.5% (11)	7, 3.3% (8)	2, 1.3% (7)
9	31, 2.5% (12)	20, 9.4% (4)	2, 1.3% (7)
10	89, 7.1% (6)	11, 5.2% (7)	1, 0.6% (11)
11-20	234, 18.6% (1)	55, 25.8% (1)	3, 1.9% (10)
21-50	65, 5.2% (10)	29, 13.6% (2)	6, 3.9% (6)
over 50	0, 0.0% (14)	1, 0.5% (10)	0, 0.0% (12)
Unclear	137, 10.9% (3)	20, 9.4% (4)	0, 0.0% (12)
Total	1,258, 100.0%	213, 100.0%	155, 100.0%
Number of sessions in	ſ	0	2
Median*	0	9	2
Weighted average of			
number of sessions in one	8.0	12.3	4.1
program*			

*Values were calculated only for programs for which the number of sessions was known

* The program means the subjects of times, and sessions means the times happening in each program, which means the programs might have different times sessions in the duration.

* The program means the subjects of times, and sessions means the times happening in each program, which means the programs might have different times sessions in the duration. However, each IM program usually has multiple sessions.

4.6 National qualifications for providers of Integrative medicine (IM) programs

No official Japanese national licenses existed for providers of these IMs, except Acupuncturist, Moxibustionist, Judo therapist, and Anma-Massage therapist. Among the IM programs investigated, there were only 16 national medical-related license holders (including five registered dietitians, three pharmacists, and two midwives) representing only 0.9% of the total number of providers (16 of the total 1,739) (Table 11). Data for other programs were not available.

National qualifications	Number of qualified	Percentage of licenses held
	providers	among the total number of
		programs
Pharmacists	3	0.2%
Midwives	2	0.1%
Registered dietitians	5	0.3%
Medical Doctor	1	0.1%
Nurse	1	0.1%
Physiotherapist	1	0.1%
Childcare worker	1	0.1%
Acupuncturist	1	0.1%
Judo therapist	1	0.1%
Total number of qualified providers	16	0.9%
Total number of providers	1,739	100.0%

Table 11. National qualifications of those who had conducted an IM program

*National qualifications were not listed in all courses

4.7 Purpose of lectures on disease prevention and health promotion

In the above-mentioned WARP website search, 14% of Yoga programs (169 out of 1,242 cases), 13% of Qigong programs (28 out of 211), and 5% of Aromatherapy programs (8 out of 145 cases) mentioned the purpose of the course. Table 12 provides examples of health-promotion

program slogans found among these archived websites. No local government website posted the results of the IM programs.

Table 12. Example of the website "disease prevention and health promotion"

Yoga
Natural healing power, immune up!
Delay vision impairment, and presbyopia, eliminate eye and body fatigue
Strengthens muscles and soothes joint movements
Keep the brain young and delay dementia
balance the autonomic nervous system
Relieves eyestrain, stiff shoulders, headaches, and lower back pain. Measures against cold hands and feet and swelling
Eliminates swelling and obesity, relaxes the brain and mind, and regulates the autonomic nervous system
Train facial muscles to reduce spots and wrinkles!
Adjust pelvic distortion
Relieve anxiety and tension about childbirth
Eliminate stiff shoulders, constipation, and obesity
Metabolism up, body temperature up
Care prevention
Asthma prophylaxis
Improvement of physical condition, improvement of the constitution, prevention of injury
The influence of the moon and female hormones on the female body and how to improve it
Cleanse the body of toxins

Natural healing power, immune up!

Qigong (Tai Chi)
Enhance immunity, healing, and coordination
Improve stiff shoulders and back pain
Improving muscle strength and muscle flexibility
Deepening sleep
Reduced risk of falls
Women's stiff shoulders, back pain, cold
Good for health and longevity
Improve blood flow
Aging care for the mind and body
Regulate the autonomic nervous system
Excellent effect on beauty, health, preventive medicine, and physical and mental stability
Aroma
Acts directly on the cerebrum, activate cells and prevents dementia
Relieve fatigue, such as summer fatigue
For a well-rounded body that is easy to lose weight and hard to gain weight
Calm recovery from mental and physical troubles

Chapter 5. Discussion

Complementary and alternative medicine (CAM) has become an option for most people. The medical system of the 20th century is a hospital system aimed at healing and a lifestyle support

system aimed at providing care that values QOL. To achieve this goal, a new type of medical care that complements existing medical care is needed. System. In this context, CAM began to be introduced, which did not arise spontaneously from the medical side but from the patient side [110]. Over time, the concept of IM gained importance; the word "alternative" was removed, the word "comprehensive" was added, the word "medicine" became "health", and prevention was also included as a broader the concept of NCCAM was renamed the National Centre for Complementary and Integrative Health (NCCIH; https://nccih.nih.gov/)[110].

The use of TCAM is increasing, especially among patients with chronic diseases, which may be due to the incorporation of TCAM into the curricula of some medical schools in Western and Asian countries [112]. Medical students need to learn CAM to make it easier to use. However, studies abroad show that doctors generally have a positive attitude towards CAM education, and medical students also believe that CAM should usually be included in medical curricula [113] so that they can confidently refer to CAM practitioners. Communicating with future patients about their CAM use is a significant motivation for medical students to learn CAM and supports further integrating CAM content into medical curricula [114]. However, medical educators need help in integrating CAM teaching into undergraduate medical education (UGME) [115]. CAM education in Japan is still in a narrow sense and needs to be more extensive. It usually focuses on Kampo medicine, but IM is not only about Kampo medicine. In addition, the study mentioned that there is also a growing recognition that interprofessional education is critical to achieving collaborative patient-centred care [116], which echoes the concept of physician-led collaboration with multiple professions. Unlike traditional biomedical majors, CAM majors also educate students in an island style, with almost no interaction between disciplines [116]. This is why Japan cannot make more progress in integrated medical education.

5.1 Utilization of Integrative medicine (IM) in Japan

With the arrival of an aging society, the issue of 2025 is even more hotly discussed. People over 75 years old will have a decrease in social security expenses (medical expenses, medical expenses) and an increase in nursing expenses [110]. For a long time, people have believed that the evidence for IM treatments is insufficient. In clinical trials using CAM technology and methods, it is often difficult to directly apply the randomized controlled trials (RCT) used in Western medicine to develop new drugs. However, since around 2000, the number of reported RCT papers has increased rapidly, with a PubMed search yielding 1,400 to 1,500 RCT-related papers yearly since 2012. Among them, the most common ones are related to supplements, followed by acupuncture. In addition, since December 2013, the Ministry of Health, Labor and Welfare has launched comprehensive medical care. Dementia is expected to increase. Implementation status of integrated medicine in Japan, 2010 Ministry of Health, Labor and Welfare Scientific Research "Release of Information on Integrated Traditional Chinese and Western Medicine, etc." In research on the Ideal Way" Survey on the use of complementary and alternative therapies provided outside medical institutions among the public, the answer" Using "I have never done that" is the most common response [116]. In terms of medical use, in the study by Imanishi et al. [117], it was found that 267 respondents (73%) used some form of complementary medicine, the most common of which was Kampo (70% of respondents).

Surprisingly, almost all complementary medicine doctors are Kampo doctors (96%), and only a few (8%) use other alternative medicine. This result differs significantly from doctors in European and North American countries [118]. Kampo is the CAM mode most used by doctors [98]. More than 80% of doctors in Japan use Kampo [119], and 76% of Japanese people have experience in using IM [120, 121]. In Japan, Kampo medicine (Japanese herbal medicine) and acupuncture are covered as part of public health insurance [122]. A 1999 study of interviews with Japanese

physicians found that 70% of physicians incorporated the use of Kampo medicine into their patient care [124]; the actual use of IM treatment in Japan seems to have several characteristics: the older the age, the higher the utilization rate, and women are more inclined to use IM treatment than men. [124]. Despite the high prevalence of CAM and perceived acceptance of CAM in Japan, the rate of patients reporting CAM use to their physicians is low (42%) [119]. Health hazards were cited as a reason for discontinuation, although the proportion of people who had ever consulted a public institution was lower than 3% [120]. These studies can echo each other. Policies make citizens willing to use CAM, and education makes doctors willing to provide CAM services. Therefore, Kampo is by far the most used CAM mode by physicians. In this situation, the practice of Kampo by many doctors with Western medical education is the most typical feature of Japanese CAM [98]. In Japan, 65.6% of adults use CAM [98]. A telephone survey of 1000 Japanese respondents showed that the percentage of people who had used at least one CAM modality in the past 12 months was higher than those who used traditional Western medicine [121]. I-CAM-QJ was an Internet survey conducted in February 2016 among 3,208 participants from the general Japanese population who had used CAM in the past 12 months (12.8%) [122].

5.2 Implementation status of Integrative medicine (IM) education in Japan

With the significant increase in medical schools offering CAM education, most medical schools provide Kampo-based CAM education. Additionally, 17% of schools include broader CAM education beyond Kampo [123].

In a 2007 random telephone survey conducted in Mie Prefecture, Japan, 71.5% of respondents desired CAM practices to be conducted in hospitals. The most likely reason cited was that "patients could receive treatment under the guidance of a physician." The study further pointed out that respondents hoped for CAM to be used under the supervision of hospital doctors [124]. These studies indicate people's expectations for physicians' involvement in CAM usage.

In IM we must consider who will take the lead. As the number of medical schools offering CAM education increased significantly, doctors' use of CAM also increased. A 2012 study surveyed all 80 Japanese medical schools and found that 98% offered at least one Kampo course. 84% offer four or more Kampo courses [125]. However, CAM therapy is not only limited to Kampo education [98], but from the current situation seen in this study, Kampo education is still the mainstream in various schools, and other projects are mostly at a disadvantage and have not been taken seriously. This is a direction that will be strengthened in future teaching policies. The goal of integrated medical education is to cultivate people who can combine the concepts of Western medicine and Kampo medicine, integrate traditional Japanese medical knowledge and skills, and promote the understanding and practice of "IM".

5.3 The situation of core curriculum and syllabus

To investigate the status of integrative medicine education, we surveyed model core curricula and syllabi in schools of medicine, dentistry, pharmacy, and nursing. Kanpo is seen in the Faculty of Medicine 2001 (first edition) (2001), the Department of Dentistry 2016 revised edition, the Faculty of Pharmacy 2002/2004 first edition and the Faculty of Nursing October 2017 (first edition) model core curriculum. Half of U.S. medical schools (50.8%) offer at least one CAM course or internship, with a total of 127 different course listings identified covering a range of topics and teaching methods, with the most listed topics being traditional medicine, acupuncture, spirituality and herbal medicine, as well as the general topic of CAM [126]. "Healthy foods" and "supplements" were confirmed in the 2002/2004 first edition of the School of Pharmacy, and "alternative therapies" were confirmed in the October 2017 edition (first edition) of the School of Nursing. According to the syllabus survey, the implementation rate of the compulsory integrated traditional Chinese and Western medicine described in the model core curriculum is relatively high.

5.4 Implementation status of Integrative medicine (IM) in medical schools

In 2005, the number of medical schools offering CAM education increased rapidly from 16 (20%) to 69 (86%) within five years, and all schools offered Kampo, with 14 schools (20%) newly learning it. New concepts include CAM and IM [127]. According to the questionnaire survey in "The Implementation Status and Positioning of Oriental Medicine Education in the Curriculum of the Japanese College of Medicine, Dentistry and Pharmacy (1st Report)", "We are conducting Kampo medicine education in some form or curriculum, 97% responded that the introduction schedule has been determined [93] "According to the results of syllabus, 84.6% universities/courses described Kampo (Table 6).In a 2012 survey on implementing Kampo education in universities nationwide, 61% of schools announced improvements in the Kampo medicine curriculum [128]. In addition, 84.4 of universities/ courses include Kampo medicine as a compulsory subject. Compared with the results of the previous survey, the overall implementation rate of Kampo medicine has remained the same [138]. We investigated medical education model core curricula, and among the findings, all model core curricula described Kampo. Since 2005, this survey on CAM education in Japanese medical schools found that education other than Kampo has not been promoted. In 2001, the Japanese Medical University Education Demonstration Core Curriculum (First Edition) began to include Kampo medicine (Table 1). However, many doctors in Japan still need to gain educational experience or training in Kampo medicine, and it is unclear how Japanese doctors choose Kampo prescriptions for prescription in daily clinical practice [48]. Developing IM skills allows GPs to offer patients more evidence-based treatment options and personalized approaches to care, help patients make informed choices about IM modalities, and avoid potentially harmful trade-offs between integrative and traditional therapies. Interaction. In addition, there are few medical school faculty who can teach Kampo medicine, and it is not easy to train them quickly [129]. Even in the absence of experts, it is important to be able to provide standardized education in Kampo medicine [48]. Additionally,

since there are few descriptions of IM in the syllabus, providing adequate education for IM that are not described in the model core curriculum is challenging.

Many general practitioners incorporate complementary medicine into their practice, whether they subscribe to the "integrative medicine" label. GPs need to understand the evidence base and potential risks of complementary medicines to ensure effective decision-making. Utilizing existing resources and integrating complementary medicine into educational programs may be helpful [33].

5.5 Implementation status of Integrative medicine (IM) in dental schools

We surveyed the core curriculum of the dental education model. According to the survey results, the description of IM was only confirmed in the 2010 revised edition. However, the description of Kampo was confirmed in the 2016 revised and 2022 editions. Since there is no other description of IM, there has yet to be progress in education about integrated medicine after consideration. According to the survey on 8 schools Among dental schools (40.0%) responded that an introduction schedule had been determined [93]. "In the results of this syllabus, 60% of universities/courses describe Kampo medicine. In addition, 58.3% universities/courses include Kampo as a compulsory subject. Approximately three-quarters of Australian dental students know little about CAM, but attitudes towards CAM therapies and the need for their inclusion in dental curricula are generally positive [131]. The use of natural and herbal preparations in the treatment of different oral diseases, especially gingivitis, mucositis and stomatitis, has been adopted as a therapeutic alternative [132-134]. However, CAM interventions may have adverse effects. Some CAMs may exacerbate excessive bleeding during invasive oral surgery [135-137], and some CAMs may also interfere with dental sedation [138]. Although CAM is considered non-invasive, it may pose risks to dental treatment patients [139]. Knowledge of CAM and understanding the

patient will have a more significant impact on the effectiveness and safety of the treatment—lots of protection. Because the description of Kampo in the core curriculum of the model comes from the revised version of H28, the implementation rate of Kampo medicine has increased compared with the previous survey. Kampo education is the only addition to integrated medical education.

5.6 Implementation status of Integrative medicine (IM) in the pharmaceutical school

We investigated the pharmacy education model core curriculum. According to the investigation results, the 2002/2004 first edition, the 2013 revised edition and the latest 2022 edition all confirmed the description of Kampo and health food. It was found that the number of IM described in the model core curriculum was greater than that in other departments. Therefore, education can progress further than other departments. A survey in "The Implementation Status and Positioning of Oriental Medicine Education in the Curriculum of the Japanese Academy of Medicine, Dentistry and Pharmacy (1st Report)", "State conducting Oriental Medicine Education in some form or curriculum [93]. 94.9% of pharmaceutical schools responded that the introduction timetable had been determined. "In this survey, some universities and courses did not provide detailed course content even if they published their syllabus online. In the results, all the pharmaceutical school are described Kampo medicine universities/courses. Previous research has suggested that Kampo medicine teaching curricula vary widely in Japanese pharmaceutical schools and suggested that clinical Kampo education is mainly provided by part-time teachers, who are usually pharmacists or doctors employed by pharmacies [139]. In addition, all the pharmaceutical universities/course are included Kampo as a compulsory subject. Compared with the previous survey results, this trend has stayed the same, with almost no integrated medical education additions other than Kampo education. To enhance school education in clinical Kampo medicine, core courses must be added, qualified teachers selected, and the training environment, curricula,

and textbooks standardized [139]. Also in Australia, a significant majority of pharmacy students (89.2%) consider the education of CAM to be a crucial and integral component of their professional degree, favouring it over additional postgraduate options [113].

5.7 Implementation status of Integrative medicine (IM) in the Nursing school

We surveyed the Nursing Education Model Core Curriculum (October 2017) 14) and as of 2024, a new version of the concept draft has been released. In the findings, we were able to confirm the description of Kampo and Alternative Therapies; there is only a description of Alternative Therapies in the Nursing Model Core Curriculum, and there is no more description of Kampo and IM description in the latest draft. In another nursing study, it was stated that few places provide CAM education for basic nursing education and continuing education, and CAM teaching is rarely systematized into professional nursing education programs [140], which can be confirmed that since 2007, in nursing Education still needs to be improved. According to a study by Suzuki et al., "In the curriculum survey, 16 schools (33.4% of collected schools) offered 19 courses related to alternative medicine [141]." Complementary and Alternative Medicine ", "Introduction to Kampo Medicine", and other contents are set up, and the specific teaching contents include "Aromatherapy", "Massage, etc.", "Kampo", and "Music Therapy". However, there is much evidence that complementary and alternative medicine (CAM) will be used into professional nursing practice, but there are still gaps in nurses' basic knowledge, efficacy beliefs, and learning needs for further education to promote the integration of CAM into nursing practice [142]. Have adequate knowledge despite the high level of interaction with patients [143].

Physicians and nurses play a critical role in the delivery of health care, and not surprisingly, the nature of the relationship between them significantly impacts the quality of patient care [144, 145].

Historically, nurses are the group with the greatest needs in the medical field. Nurses will be more likely to contact patients for a more extended period. They are indispensable for nurses' communication and medical education. They play an important role in communication among front-line health department personnel. Role. Nurses generally welcome learning more about CAM, and nurse practitioners' express interest in further learning and receiving professional CAM training to enhance patient care [146]. In addition, the implementation rate of "Shoho", which has not been mentioned in medicine, dentistry, and pharmacy, is relatively high and has been described as 2005; Usui 2003) and is often used in nursing practice" [147].

5.8 Social Model of Integrated Medical (IM) in Japan-Health Promotion Plan

A new trend of integrated medical care has also emerged in Japan. The Great East Japan Earthquake 2011 was a major turning point in its raison d'être. It cut off infrastructure on a large scale, and emergencies such as tsunamis and nuclear accidents put tremendous pressure on victims, causing extreme depression of the sympathetic nervous system, modern Western medicine, which relies heavily on energy, will continue to struggle for some time [148]. Amid the COVID-19 pandemic in 2020, a large portion of the Japanese population, especially the elderly, faced elevated risks of morbidity and mortality. Group sports activities for the elderly in Japan are suspended [149]. In Japan, large-scale disasters such as the Nankai Trough earthquake, the earthquake directly hitting the Tokyo metropolitan area, and the eruption of Mount Fuji are expected to occur, which are expected to cause serious losses [150]. Therefore, since December 2013, the Ministry of Health, Labor and Welfare has launched IM [85]. It is critical to better understand the progress of promotion and implementation of health promotion programs and to strengthen primary care
education and policy promotion. The Japan IM Health Promotion Plan aims to improve the health status of patients, and the government is formulating various policies and support measures to promote the spread of integrated medicine that combines Western medicine with alternative and complementary medicine. This includes developing a certification system for medical institutions implementing integrated care, disseminating and enlightening integrated care information, and implementing health promotion programs utilising integrated care.

5.9 Types of Integrated Medical (IM) implemented by local governments

IM aims to create a holistic medical system for individuals. This concept precisely addresses patients' current needs and requirements, a period in which self-determination and personal responsibility are becoming increasingly important [151]. Physicians (GPs) incorporate IM into clinical practice, approximately 85% of GPs in Germany and 16% in Canada and the UK [152]. The study also found that the most popular IMs for which doctors receive education or training are nutritional supplements, meditation, yoga, mindfulness techniques, occupational and environmental medicine, and Western herbal medicine [153]. This includes appropriate treatment and lifestyle approaches, healthcare professionals, and most modern disciplines. The most widely used complementary medicines are natural products, mind-body therapies and acupuncture [154]. There are no formal IM health promotion programs in Japan with national licenses except for programs offering acupuncture, moxibustion, judo, and massage therapy (Table. 11). And yoga (71.4%) is the most widely provided IM program by local governments in Japan, followed by aromatherapy (8.3%) and Qigong (12.1%) (Table 8). Yoga is a program that is easy to host regardless of region. Yoga is generally accepted by healthcare decision-makers [155]. Yoga can be used as an alternative to exercise and a relaxation technique to reduce physiological and psychological responses to stress [156]. Among integrated health promotion programs, the most frequent activities were one-time events, with yoga accounting for the most. Yoga is the most repetitive activity, and Qigong is the most repeated activity (Table 9). In addition, there are some plans whose types cannot be determined but also very numerous. Yoga is one of the most accessible IM health promotion programs to get started. However, there is no record of the user's health status, and it is impossible to know whether the quality of life has been improved. In addition, it is known from the results that only a few project implementers have national qualifications (Table). Few people described the procedures and purposes when the plan was proposed. Even if the purpose was described, no one described the results after implementing the procedures. Qigong 215 cases (12%) were confirmed in another study. Qigong was revealed to be a practice capable of promoting health and satisfying prevention [157]. Qigong is a traditional Chinese medicine PIC (Practices Integrative Complementors) that conforms to this healthcare perspective. During the process, through the established mind-body relationship, the transportation of energy and blood is improved, which affects the flow of qi, yin and yang that are vital to the human body and can adjust and coordinate the body's qi and yin and yang, thus promoting health [158]. In addition, the beneficial application of Qigong's main functions in promoting, preventing, and rehabilitating diseases and physiological disorders in adults and the elderly may contribute to the health promotion of the aging society in these Qigong-related local government health promotion programs. Aromatherapy is a rapidly developing alternative integrative therapy that uses essential oils from plants to replace traditional medicines to treat diseases and promote physical, emotional, and spiritual health [159, 160]. One of Japan's most widely used natural remedies in national consumer reports is also popular (see Table 8).

Although this evidence shows the importance of health promotion programs, and the World Health Organization traditional medicine strategy emphasizes the integration of TCAM health practices, some countries, such as Spain, where the Ministry of Health and Science launched the "Program for the Protection of Health from Pseudo Therapies," which identifies Includes acupuncture and Ayurveda [161].

5.10 Implement the situation by municipal governments

According to the survey results, no municipal HP (home page) announced the results of the IM health promotion project. It is impossible to judge whether the implementation of IM and health promotion is effective in disease prevention and health promotion, and it is challenging to clarify the actual situation of integrated medical projects in local governments across Japan.

The goal of IM should be to provide patients with the widest range of appropriate options. Appropriateness should be based on fundamental considerations equally relevant to traditional and CAM practices: treatment safety and treatment effectiveness [162].

It is inferred from these results that although Japan is currently implementing various integrated medical plans, their purpose and results could be clearer, and each citizen has to think about choosing a healthy, effective and safe plan. One of the reasons for this is the need for medical professionals to have a better understanding of alternative medicine. Research in South Asia has suggested that the reasons for the failure of outpatient care are out-of-sync policies and program practices [12], and we found the same criticism in this research investigation. This study showed that no city published the results of IM or health promotion programs (except a few cities). Effective health promotion measures require collaboration between governments and researchers. After identifying the root causes of implementation challenges, these programs should be customized to each country's unique healthcare environment [163].

An economics and policy speaker at the 2009 Integrative Medicine and Public Health Conference in Washington emphasized that the body's natural state is one of health and that public policy should support this inherent process of promoting health, emphasizing that healthcare professionals, Educators, physical trainers, counsellors, and others play important roles in ensuring physical and mental health [164]. Healthcare professionals must participate in health promotion programs, and doctors should oversee these programs, especially if the Japanese central government wants them to lead IM [165]. For local government homepages, integrated medical and health promotion projects are rarely introduced, and only 16 people have national-level qualifications. Japan has a decentralized public health system, but local governments consider the opinions of experts rather than the community when deciding on public health plans [166]. Therefore, in projects related to integrated health promotion, experts play an important role in guiding integrated health promotion plans. In addition to Qigong, Qigong program providers currently need to have national medical-related qualifications. Aromatherapy is a popular instant therapy, but despite its popularity, health professionals need to become more familiar with it (Table 9).

Central oversight and local action enable interventions and programs to be adapted to local needs and resources. However, the quality of every local plan cannot be guaranteed. Although the central government rewards high-quality practice, there is no regulation, incentive structure or support to ensure minimum quality levels [167]. Health promotion programs include individual and community-level actions, health system strengthening, and multi-sector partnerships, and they can target specific health conditions. Additionally, an environmental approach to promote health in specific settings. Health promotion must be integrated into all policies and, if used effectively, will lead to positive health outcomes [168]. There is a close relationship between IM and health promotion [68], emphasising the importance of prevention, health promotion, and patient empowerment [169]. Research in Taiwan [170] and South Korea [171] shows that local governments in these countries incorporate IM into health promotion policies, which is consistent with the results of this study. Although different communities face unique health challenges, promoting healthy practices is critical [172-174]. Health promotion purpose Integrated medical health promotion programs, "disease prevention/health promotion", are rarely mentioned on the homepage, and most programs have an unclear purpose for organizing integrated medical projects. Even though the project describes the purpose of "disease, prevention/health promotion", there is no clear basis for it.

Research states that the goal of integrative medicine should be to provide patients with the broadest range of appropriate options. Appropriateness should be based on fundamental considerations equally relevant to traditional and CAM practice: treatment safety and treatment effectiveness [167], but it still requires more knowledge and comprehensive planning. To resolve this issue, future IM health promotion programming could prioritize moderators, implement solutions tailored to actual needs, address identified challenges, and respond to urgent needs reflected in healthcare systems in different countries.

Therefore, first, ensuring the quality of the project is very important to promote local governmentfunded IM projects as a social model of IM. Second, the IM project of disease prevention and health promotion with local government as the main body, as a social model of integrated medical care, must synchronize policies and plan practices to improve local residents' quality of life (QOL). Third, various IM treatments require national medical-related qualification certification. Therefore, ensuring the program's quality and promoting the IM health program funded by local governments as a "social model" of IM is essential.

In the future, it is considered imperative to translate these programs into clinical evidence of their usefulness and promote them to citizens who are taking the course as a healthy and safe integrative medical social model.

5.11 Suggestions for the direction of IM

The Ministry of Health, Labor, and Welfare has convened experts since 2012 to conduct a yearlong research seminar on the ideal form of "integrated medical care." The association proposed two models [106] for implementing integrative medicine. This study makes in-depth discussions and recommendations for these two integrated models: The medical model Aims to generate scientific evidence of CAM through clinical trials.

Social model: Feed this clinical evidence back to local communities to promote overall social health and ultimately achieve the social goals of sustainability, health, and longevity. In the medical model: 1. Integrate IM into the education system and integrate integrated medicine into the medical education of doctors and health professionals. 2. Professional IM, set up training courses for various IMs and pass national examinations for certification to ensure the effectiveness and security of IM. 3. Professional teacher training, to promote systematic training of professional teachers in IM and improve their education and research capabilities. In the social model: 1. Ensure program quality, promote government-funded integrated traditional Chinese and Western medicine programs, and establish an integrated medicine system with the social model as the core. 2. Synchronization of policy and practice: Government-led disease prevention and health promotion programs must be synchronized at the policy and implementation levels to improve local residents' quality of life (QOL). 3. Qualification certification: Integrated traditional Chinese and Western medicine requires medical and health-related qualification certification by the state to ensure its professionalism and credibility. 4. It is crucial to ensure project quality and promote government-funded IM health programs as a "social model" of integrative medicine.

5.12 Conclusion

The results of this study can be used as a template for promoting IM in the future global society using the Japanese situation.

Chapter 6. Conclusion

Japan's integrated medical health promotion plan aims to improve patient health by combining traditional medicine with complementary and alternative therapies to respond to challenges caused by disasters such as earthquakes and epidemics. As patient needs have increased, integrative medicine (IM) has evolved and integrated into preventive medicine. Complementary and alternative medicine (CAM) is widely used to improve quality of life and manage chronic diseases, especially among patients with chronic diseases. Still, patients often need to report their use to their doctors.

In terms of medical models, many medical schools have incorporated CAM into their curricula, but the education field faces challenges such as insufficient faculty and insufficient interprofessional collaboration. In Japan, the proportion of doctors who use Kampo is as high as 80%, and the application of integrated medicine in the treatment of dementia and chronic diseases has received significant attention. The number of studies on acupuncture and supplements is growing rapidly. However, while Kampo education in medical schools has become widespread, education in other CAM areas has been slow, and progress has been limited. The proportion of Kampo education in dental schools has increased, but emphasis on other CAM areas still needs to be enhanced. Pharmacy schools are gradually incorporating healthy foods and alternative therapies into core curricula, but the issue of faculty still needs to be resolved. Core curricula in nursing

education describe alternative therapies, but more attention should be given to Kampo and integrative medicine.

Future education aims to integrate various IM course contents further and strengthen interprofessional cooperation. Given limited resources, standardized education needs to be promoted to ensure the scientific and safety of IM education.

Regarding primary care, IM health promotion programs are mainly implemented at the local government level. Still, problems include unclear goals and results, lack of professional qualifications, and out-of-sync policies and practices. The promotion of integrated medicine needs to be supported by more clinical evidence, and collaboration between the central and local levels should be strengthened to ensure the quality and safety of the program. At the same time, it is necessary to enhance the supervision of the qualifications of health promotion project implementers and improve the consistency of policies and practices to improve citizens' health standards and quality of life (QOL).

The results of this study have reference value for global society, and Japan's experience can be used as a template for promoting integrated medicine in primary care and education.

List of Abbreviations

- CAM = Complementary alternative medicine
- CIM = Complementary integrative medicine
- IM =Integrative medicine
- TCAM = Traditional complementary alternative medicine

TCIM = Traditional, Complementary and Integrative Medicine

- WHO =World Health Organization
- QOL =Quality of Life

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