

In Pharmaceutical Factories in Japan, Dry Powders (Decoctions) are Doing Wonders Nowadays. A Review

Avineet Kaur^{1*}, Harnoor Singh Sandhu², Jaidev Singh Dhillon³, Shalu Chandna⁴, Parteek⁵, Kanwar Shabaz Singh Sandhu⁶, Naginder Pal Singh⁷ and Iqra Khilji⁸

¹Senior Lecturer, Department of Periodontology and Oral Implantology, Swami Devi Dyal Dental College and Hospital, Golpura, Barwala (Haryana), India

²Emergency Medical Officer, Department of Emergency, Gian Sagar Medical Hospital, Banur, Rajpura (Punjab), India

³Principal, Department of Conservative Dentistry and Endodontics, Ryat Bahra Dental College and Hospital, Mohali (Punjab), India

⁴Professor and Head, Department of Periodontology, Maharishi Markandeshwar College of Dental Sciences and Research, Mullana, Ambala (Haryana), India

⁵Junior Resident, Department of Surgery, Gian Sagar Medical Hospital, Banur, Rajpura (Punjab), India

⁶PG Student, Department of Paediatrics, Narayan Medical College and Hospital Sasaram Jamuhar, (Bihar), India

⁷Intern, Government Multi Speciality Hospital, Sec 16 Chandigarh, India

⁸Medical Officer (Dental), Hazrat Haleema Maternity and General Hospital, Garewal Chowk, Malerkotla (Punjab), India

***Corresponding Author:** Avineet Kaur, Senior Lecturer, Department of Periodontology and Oral Implantology, Swami Devi Dyal Dental College and Hospital, Golpura, Barwala (Haryana), India.

DOI: 10.31080/ASOL.2022.04.0425

Received: March 18, 2022

Published: April 05, 2022

© All rights are reserved by **Avineet Kaur, et al.**

Abstract

Products derived from Kampo medicinal, such as decoctions or powders, contain pharmaceutical active ingredients that have been extracted by boiling. Pharmacological active ingredients extracted by boiling from a mixture of natural therapeutic herbs are included in Kampo medicaments. Kampo's medication targets the "mibyuu" condition, also known as the "subhealthy" condition, in addition to clinically defined endpoint diseases. As a result, Kampo medicine is occasionally criticised for its dearth of terminology to describe patients' ailments and ailments. Supportive care for cancer patients using Kampo medicine may improve their physical, mental, and nutritional well-being. Three Kampo medicines, particularly TJ-35, also prevented the Fenton reaction from generating hydroxyl radicals. TJ-35, in particular, may have anti-ulcer properties in part because of its antioxidant properties, according to these findings. The efficacy of Kampo medicament, on the other hand, is derived from interactions between multiple compounds and multiple targets. As a result, Kampo medicines have become an integral part of mainstream medicine in Japan. Orthodox medicine, on the other hand, places a greater emphasis on the response of the host to the pathogen.

Keywords: Kampo; Geriatrics; Japan; Chinese

Introduction

Even though kampo medicine has been originated from ancient Chinese medicine, it has evolved into a distinct approach in Japan over the course of more than 1500 years. Traditional Korean and Chinese orthodox medicines use many of the same therapeutic herbs in Kampo prescriptions, but Kampo prescriptions often differ from orthodox prescriptions. Decoctions or powders containing pharmaceutical dynamic ingredients drawn out from bubbling from a mixture of naturally derived therapeutic herbs are Kampo medicaments. Pharmaceutical companies in Japan typically produce these and sell them ready-to-use [1].

A physician is the only licensed practitioner in Japan who can identify and treat patients according to a variety of orthodox and Western medical therapies (Supplement 1). But in medical schools, doctors are only taught a few things about Kampo medicine, and the number of people who practise orthodox medicine outside prescribing Kampo medicine based on Western medical identity is extremely low.

Physicians in Japan are prescribing kampo extract byproducts for prescriptions alone or in combination with modern medication without an orthodox diagnosis for diseases, more than one clinical research in Kampo medicine is overseen differently in Japan than it is in the rest of the world, according to modern medical standards. This means that Western-trained physicians who use Kampo medicament supervise clinical research on the medication and use the results of this research.

Every one of Japan's standard Kampo medications is subject to the same regulations that apply to Western-style standard medical products. The National Health Insurance covers Kampo formulations prescribed by doctors. A single dose of dried extract grains in an aluminum pouch containing a large number of grains [2]. A well-established complementary and alternative medicine system in Japan, kampo (orthodox Japanese herbal medicine) has a proven track record of effective treatment and minimal side effects. The antioxidative properties of Kampo formulae or other herbal extract prescriptions have been documented in numerous studies, and the antioxidative potencies of Kampo formulas are now recognised as a pharmacological mechanism of action. Prescriptions for Japanese orthodox medicine prescribed by more than 80% of Japanese medical doctors, Kampo medicines can

be used alone or in conjunction with more traditional western treatments in Japanese hospitals. Consequently, Kampo medicines are now firmly established in mainstream medicine [1].

Kampo's medication targets the "mibyuu" state, or alternatively, the "subwell" state, in order to establish clinically established doom diseases. It's possible that oxidative stress, a condition that can lead to a wide range of diseases, is an indication of the mibyuu, a condition defined in orthodox Oriental medicine as a state between health and disease but closer to disease [3].

Kampo medicine's long and colourful history

European medicine was first introduced to Japan in the late 18th century. Toyo Yamawaki, a well-known Kampo doctor, was the first to study modern anatomy in 1754 after acquiring a book on the subject in Europe. In the eyes of Toyo Yamawaki, Yoshimasu, who was well-versed in European medicine, was a wise man. He may have reformed Kampo medicine in order to make it more compatible with Western medicine.

A number of other physicians, including Seishu Hanaoka (1761–1835), followed this trend by carrying out the first surgical procedure with general anaesthesia in 1804. 42 years had passed by the time of William T. G. Morton's successful use of ether as a general anaesthetic during surgery. For surgery, Hanaoka used Kampo and European medicine, with Kampo primarily used for internal medicine.

Kampo usage was no longer considered by official medical professionals, so the only way to use kampo medicine was to learn Western medicine and progress with a national examination. After that, Kampo's popularity dwindled dramatically.

Kampo medicine as practised today has bygone much of its theoretical foundation, and the focus is now on the actual prescription of Kampo medicine for curing symptoms. The new generation of Western-trained physicians found it easier to grasp Kampo as a result of these modifications. With the "pattern and formula" method, Kampo became a more appealing treatment option.

As a result of these efforts, the government approved the first four Kampo prescriptions for coverage under the national insurance system in 1967 [4].

Trials in Japan of kampo byproducts randomized controlled

Doctors trained in western medicine prescribe Kampo, which is based on the principles of traditional Japanese medicine. At the time of prescribing a Kampo formula, doctors must have a basic understanding of its indications, as well as an understanding of Western medical terminology. Japanese doctors advise Kampo formulas based on Western medicaments in 52% of cases, Western medicine in 32% of cases with consideration for Kampo medicine, Western medicine in 10% of cases and Kampo medicine in 6% of cases, according to a 2011 survey by the Japan Kampo Medicament Manufacturers' Association (JKMA).

Physical examination results are used to identify Kampo patients. In particular, abdominal palpation is used to identify Kampo patients. The Association of Cooperative Researchers on Medical and Dental Education, which is overseen by Japan's Ministry of Sports, Culture, Science, Education and Technology, established Model Core Curriculum for Medical Education in 2001, which includes kampo medicine [5].

Japan's "Kampo Medical Classification" was just developed

JSOM (Japan Society for Oriental Medicine) was established in 1950 and is the huge academic organisation in Japan for traditional medicine. Many of the Kampo classification's orthodox names overlap with Western medical terms, so the JSOM Committee for Terminology and Classification figure not to use them. "Watery diarrhoea" or a "headache" are examples of symptoms that are commonly referred to as "disorders." When it comes to diseases like cholera and malaria, the denomination are ground on the pathological causes of the disease rather than the symptoms. As a result, it is difficult to map orthodox disorder title and biomedical disease denominations. If you have multiple biomedical disease names that describe the same symptoms, you may have a symptomatic orthodox name. In order to keep away puzzlement, Western biomedical words were often used instead of the orthodox Kampo terms during the establishment of Kampo medicine in Japan.

In China and South Korea, organ system design are extremely salient in the practise of medicine. It was not uncommon for kampo practitioners of the Meiji, Taisho and Showa eras to avoid using organ systems in order to keep away from confusion with biomedical terminologies. As a consequence, Kampo drugs are

occasionally criticised for its dearth of terminology to describe patients' ailments and ailments. Western biomedicine places more emphasis on pathogenesis than on host reaction. Orthodox medicine, on the other hand, places a greater emphasis on the response of the host to the pathogen. Kampo medicine, on the other hand, has been enlarged in harmony with Western biomedicine [4].

Kampo vs. normal medicine

There is only one compound-one target interaction in conventional medicines. The efficacy of Kampo medicament, on the other hand, is derived from interlinkage between numerous compounds and multiple targets. Kampo's effectiveness is due to interlinkage between numerous compounds and targets. This demonstrates how Kampo medicines differ from conventional medicines in terms of their mode of action. A fundamental technology must be developed, therefore, for an in-depth investigation into how multicomponent Kampo medicaments work in the human body as a compound system [1].

There are a number of novel uses for Kampo medicine

Medications that treat ulcers have anti-oxidant properties Kampo TJ-10(Saiko-Keishi), TJ-35(Shigyaku-san) and TJ-43(liu-jun-zi-tang) antioxidant activities were considered using the electron paramagnetic resonance spin trapping method. This method is clinically used for the treatment of gastritis and peptic ulcer. Even though TJ-35 scavenged superoxide generated by the hypoxanthine oxidation system, it had little effect on polymorphonuclear leukocytes that were stimulated by phorbol myristate acetate or opsonized zymosan. Three Kampo medicines, particularly TJ-35, also prevented the Fenton reaction from generating hydroxyl radicals. TJ-35, in particular, may have anti-ulcer properties in part because of its antioxidant properties, according to these findings. Recommendations for the use of Kampo medication for gastrointestinal disorders based on scientific and clinical evidence [6].

An overview of the current state-of-the-art research on the effectiveness of kampo medicament in the therapy of various GI tract disorders is presented in this review.

In cancer treatment

Toshihiro Y and Motoo Y, *et al.* in 2022 Standardised traditional Japanese herbal medicaments known as "kampo" have been tried

to help cancer patients in Japan. Side effects of anticancer drugs may be reduced or prevented by Kampo medicines. Supportive care for cancer patients using Kampo medicine may improve their physical, mental, and nutritional well-being [7,8].

Elderly illness

Research on the application of Kampo Medicine for the Therapy of Geriatric Syndromes.

Geriatric syndrome (GS), a collection of age-related symptoms, has emerged as a social issue in Japan due to the country's ageing population. Geriatric syndrome (GS) is the result of ageing in both the physiological and pathological senses. Japanese traditional medicine known as Kampo uses a variety of active substances to treat many conditions and diseases associated with genetic syndromes (GS), including multiple pharmacologically active substances. Evidence of Kampo medicine's efficacy in treating GS has grown steadily in the last few years. Treatment with Kampo medicine for GS has been shown to have positive effects on a wide range of GS symptoms, including those involving the cardiovascular, respiratory, digestive, and cognitive systems, as well as pain and other sensory issues [9].

At the first multidisciplinary pain centre in Japan, we offer personalised medicine

For the first time in Japan, in 2014, the first multidisciplinary pain centre integrated Kampo medicine and Western medicine as a bespoke treatment for patients. Arai Y. C. P., *et al.* In order to better understand and treat patients with chronic pain, one must have a thorough understanding of the biopsychosocial model. In July 2007, we opened Japan's first multidisciplinary pain centre. As part of our interdisciplinary approach to treating chronic pain patients, we have been prescribing Kampo concentrate formulations in blending with Western medicine in our daily clinical practise. As a result of health insurance systems, there were no reports of Kampo practise in multidisciplinary pain centres worldwide to date. Our multidisciplinary pain centre supervise a study on the use of Kampo concentrate formulations and their impact on patients with chronic pain [10].

Stomatitis and mucositis of the mouth

In the year 2018 Sunagawa M., *et al.* An inflammatory condition of the oral mucosa, known as stomatitis, is marked by the presence

of aphthae, erosions, vesicles and ulcerations, among other symptoms. A survey on the effectiveness of the Kampo formulas for treating stomatitis. Hangeshashinto (HST), Inchinkoto, Orengokoto, Inchinkoto, Orento, Byakkokaninjinjinto, Juzentaihoto (JTT), Shosaikoto (SST) and Hochuekkito (HET) were used in the study. Stomatitis is linked to the production of reactive oxygen species (ROS). As a result, the damaging effects of the anti-oxidants found in these medicinal powders may be effectively mitigated. Dragland., *et al.* evaluated the gift of culinary and therapeutic herbs to the total intake of antioxidants in the general population [11].

Intractable stomatitis

When it comes to treating intractable stomatitis, Kampo Medicament has been shown to be an effective treatment. The cause of intractable stomatitis, a chronic inflammation of the oral mucosa, is unknown. Although the cause of intractable stomatitis is not known, the anti-inflammatory and antioxidant properties of KMs may play a role in suppressing the disease. Saliva secretion may aid in wound healing by KMs. In any case, numerous studies have shown that it is effective in treating intractable stomatitis with it [12].

Conclusion

Pharmacological active ingredients extracted out by boiling from a blend of natural therapeutic herbs are included in Kampo medicaments. Pharmaceutical industry in Japan typically produce and distribute them in a prepackaged form. Clinical research on Kampo medicine in Japan is supervised in accordance with modern medications in Japan. Medical byproducts from the Kampo school of medicine are treated the same way as those from the Western medicine when it comes to usage in Japan.

Acknowledgement

This paper would not have been possible without the extraordinary support of my family and my co-authors. Their zeal, mastery, and hard attention to detail have been an inspiration and kept my work on track.

I would also like to show my gratitude to my wonderful parents, brothers, family, friends and especially Kimiko Mori-Chhapan.

Bibliography

1. Sawada R., *et al.* "Kampo DB, database of predicted targets and functional annotations of natural medicines". *Scientific Reports* 8.1 (2018): 1-11.
2. Arai I. "Clinical studies of traditional Japanese herbal medicines (Kampo): Need for evidence by the modern scientific methodology". *Integrative Medicine Research* 10.3 (2021): 1007-1022.
3. Arumugam S and Watanabe K. "Japanese Kampo Medicines for the Treatment of Common Diseases". Academic Press (2017).
4. Yakubo S., *et al.* "Pattern Classification in Kampo Medicine". *Evidence-Based Complementary and Alternative Medicine* (2014).
5. Motoo Y., *et al.* "Use of Kampo Diagnosis in Randomized Controlled Trials of Kampo Products in Japan: A Systematic Review". *PLoS ONE* 9.8 (2014).
6. Takahashi S., *et al.* "Antioxidant Properties of Antiulcer Kampo Medicines". *Free Radical Research Communications* 190 (1993): 101-108.
7. Motoo Y and Cameron S. "Kampo medicines for supportive care of patients with cancer: A brief review". *Integrative Medicine Research* 11.2 (2022): 100839.
8. Tominaga K and Arakawa T. "Kampo medicines for gastrointestinal tract disorders: a review of basic science and clinical evidence and their future application". *Journal of Gastroenterology* 48.4 (2013): 452-462.
9. Takayama S., *et al.* "Kampo Medicine for Various Aging-Related Symptoms: A Review of Geriatric Syndrome". *Frontiers in Nutrition* 7 (2020): 1-28.
10. Arai Y-CP, *et al.* "The review of innovative integration of Kampo medicine and Western medicine as personalized medicine at the first multidisciplinary pain center in Japan". *EPMA Journal* 5.1 (2014).
11. Sunagawa M., *et al.* "Kampo (Traditional Japanese Herbal) Formulae for Treatment of Stomatitis and Oral Mucositis". *Medicines* 5.4 (2018): 130.
12. Momota Y., *et al.* "Effectiveness of Kampo Medicines Against Intractable Stomatitis: A Mini-Review". *International Journal of Medical and Dental Sciences* 8.2 (2019): 1724-1727.

Assets from publication with us

- Prompt Acknowledgement after receiving the article
- Thorough Double blinded peer review
- Rapid Publication
- Issue of Publication Certificate
- High visibility of your Published work

Website: www.actascientific.com/

Submit Article: www.actascientific.com/submission.php

Email us: editor@actascientific.com

Contact us: +91 9182824667