Industry-University-Research Collaboration and Clinical Research on Traditional Medicine
傳統醫藥產學研合作與臨床研究
Event Report

Heavy-weighted Speakers Gathering at the Conference

Dr. the Hon David LAM Tzit-yuen, Member of the Legislative Council of the Hong Kong Special Administrative Region and Dr. Vincent CHUNG, the Commissioner for Chinese Medicine Development, Health Bureau of the Government of Hong Kong Special Administrative Region were the Guests of Honour and Special Guest respectively. They both delivered welcome remarks and special remarks during the ceremony.

The ICMCM 2024 was once again held in a hybrid format with the theme of "Industry-University-Research Collaboration and Clinical Research on Traditional Medicine", featuring 18 speakers from Mainland China, Hong Kong and USA.

Session 1: Keynote Speech

1. Prof. BIAN Zhaoxiang, Hospital Chief Executive, Hong Kong Chinese Medicine Hospital & Director, Centre for Chinese Herbal Medicine Drug Development, Hong Kong Baptist University (Hong Kong)
2. Prof. SHEN Yuandong, Chair of ISO/TC 249 Traditional Chinese Medicine (Mainland China)
3. Prof. Chun-Tao CHE, Harry H.S. Fong Professor of Pharmacognosy, and Director of the World Health Organization Collaborating Centre for Herbal Medicines, College of Pharmacy, University of Illinois Chicago, U.S.A. (USA)

Session 2: Industry-University-Research Collaboration on Traditional Medicine/Chinese Medicine

4. Dr. Frank MA, Vice President and Chief Scientific Innovation Officer of Infinitus (China) Co. Ltd. (Mainland China)
5. Dr. ZHOUJIE, Director of Evidence-based Research Institute of TCM of the GBA (Mainland China)
6. Ms. ZHU Qianjing, Researcher of Basic Technology Research Department, China R&D Center, JungKwanJang (Mainland China)
7. Prof. Shi-Shan YU, Chairman of the State Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College (IMM, CAMS & PUMC) (Mainland China)
8. Prof. Jing SHU, Vice President of Shanghai University of Traditional Chinese Medicine (Mainland China)

Session 3: Clinical Research on Traditional Medicine/Chinese Medicine

9. Prof. Zhixiu LIN, Director and Professor of School of Chinese Medicine, The Chinese University of Hong Kong (Hong Kong)
10. Dr. CHAN Kam Wa, Assistant Professor of Hong Kong Baptist University (Hong Kong)
11. Dr. YUAN Man, Shanghai University of Traditional Chinese Medicine (Mainland

China)

12. Prof. WANG Zhiyu, Deputy Department Head and Professor of Breast Disease Hospital, Guangdong Provincial Hospital of Chinese Medicine (Mainland China)

Session 4: Successful Cases Sharing

13. Prof. CHANG Chen, Founder of Chinese Essence Medical Group (Hong Kong)
14. Prof. YU Zhiling, Professor of School of Chinese Medicine, Hong Kong Baptist University (Hong Kong)
15. Prof. Timothy Tin Lok TAM, Chief Operation Officer of Ling Nam Medicine Factory (HK) Ltd. (Hong Kong)
16. Prof. Justin Che-Yuen WU, Associate Dean (Health Systems) of Faculty of Medicine, The Chinese University of Hong Kong (Hong Kong)
17. Ms. PEI Hong, General Manager of GKH Pharmaceutical Ltd. (Mainland China)
18. Ms. Ivy JIA, General Manager of Tong Han Chun Tang Co. Ltd. (Mainland China)

Engaging Hybrid Solutions for Chinese Medicine Professionals

The Conference was conducted in a hybrid format, running simultaneously in physical and virtual formats, to offer greater convenience and flexibility to Chinese Medicine Practitioners and Healthcare Professionals who might not be able to attend the two-day event in person.

To facilitate knowledge exchanges and interactions between audiences and speakers both online and in-person, online audiences were encouraged to raise questions via Zoom, while on site attendees could submit inquiries using 'Pigeonhole'.

Abstracts of Selected Presentations

Prof. BIAN Zhaoxiang, Hospital Chief Executive, Hong Kong Chinese Medicine Hospital & Director, Centre for Chinese Herbal Medicine Drug Development, Hong Kong Baptist University (Hong Kong)

Low productivity has become a great challenge of pharmaceutical industry, while the R&D paradigm is required to be changed. A new R&D model, namely, clinical-based new Chinese Herbal Medicine (CHM) drug development, has been proposed based on our 20 years practice. Two cases, CDD-2101 for constipation and CDD-2107 for Bag3opathy, are shared in this talk. The path to the clinical-based new CHM drug development has been summarized. Compared with the mainstream R&D model, target-based drug development, the clinical-based new CHM drug development take the advantage of proof-of-concept study of CHM in-human at the early stage of drug discovery, which could reduce the risk of clinical trial failure and improve the R&D productivity.

Prof. SHEN Yuandong, Chair of ISO/TC 249 Traditional Chinese Medicine (Mainland China)

The International Organization for Standardization's Technical Committee on Traditional Chinese Medicine (ISO/TC 249) has published 110 ISO international standards, covering the fields of Chinese material medica and its finished products, medical devices, terminology and informatics, and services. The formulation of international standards has accelerated the scientific and technological innovation of Traditional Chinese Medicine, promoted the social and economic benefits of the industry, and had an important impact on the high-quality development of Traditional Chinese Medicine.

Prof. Chun-Tao CHE, Harry H.S. Fong Professor of Pharmacognosy, and Director of the World Health Organization Collaborating Centre for Herbal Medicines, College of Pharmacy, University of Illinois Chicago, U.S.A. (United States)

Herb-based products are becoming an integral part of health management not only in the East, but also in the Western world. Notwithstanding the booming of herbal markets, there are challenging issues and concerns about the quality, safety, and effectiveness of herbal products. Overcoming these hurdles could help facilitate the modernization and globalization of Chinese medicines. This presentation will take a close look at the scientific challenges. Some of these difficulties are unlikely to be overcome within a short period of time, yet there are wide-open opportunities for industry-university collaborative research to help meet the demands for high-quality Chinese medicine products.

Dr. Frank MA, Vice President and Chief Scientific Innovation Officer of Infinitus (China) Co. Ltd. (Mainland China)

Traditional Chinese Medicine (TCM) prescriptions not only play a significant role in treating diseases but also demonstrate their unique value in the field of disease prevention and health care. Inspired from the insights of these TCM prescriptions, we have carefully developed a variety of health-preserving formulae and products that cater to the lifestyles and health needs of modern people. To prevent and reduce the risk of chronic diseases, these health-preserving formulae not only inherit the essence of classical TCM prescriptions but also integrate modern nutritional concepts. On top they have also gone through rigorous clinical trials to verify their health benefits. We are committed to combining traditional wisdom with modern technology, continuously researching and innovating to revitalize the classical formulas of TCM in modern society and contribute to the health of all humanity.

Dr. ZHOUJIE, Director of Evidence-based Research Institute of TCM of the GBA (Mainland China)

China is accelerating the modernization and internationalization of Traditional Chinese Medicine (TCM). In this context, the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) has emerged as a pioneering region. This report will use the GBA as a case study to discuss the series of favourable policies supporting the international expansion and accelerated introduction of TCM, and to share innovative cooperative models for the development of TCM in the Greater Bay Area.

Ms. ZHU Qianjing, Researcher of Basic Technology Research Department, China R&D Center, JungKwanJang (Mainland China)

In modern society, with the improvement of people's living standards, health issues have received increasing attention, especially against the backdrop of the epidemic, which has prompted a resurgence in public health awareness. Red ginseng, as a famous traditional herb in the East, has attracted widespread attention in Asia and around the world, being extensively used in the field of traditional Chinese medicine. In addition to its unique medicinal value, red ginseng also possesses antioxidant activity and antiviral properties.

This presentation will introduce the research progress on the antioxidant activity and antiviral effects of red ginseng. In the antioxidant activity study, a rat model of Qi deficiency was

established using a weighted swimming test, followed by oral administration of low, medium, and high doses of red ginseng extract (100, 200, 300 mg/kg) for 14 days. The results showed that the swimming time of rats increased after taking red ginseng, and the levels of lactate (LA) and lactate dehydrogenase (LDH) in the blood were significantly reduced. Red ginseng improved mitochondrial dysfunction in the skeletal muscles of Qi deficiency rats by activating AMPK and PGC1αexpression. After taking red ginseng, the levels of malondialdehyde (MDA) and reactive oxygen species (ROS) in the skeletal muscles of rats decreased, while the activities of superoxide dismutase (SOD) and glutathione peroxidase (GSH-PX) increased. Blood tests on rats showed no abnormalities, indicating that red ginseng has good antioxidant capacity in Qi deficiency rats without any side effects.

In the antiviral study, mice were orally administered low, medium, and high doses of red ginseng extract (200 mg, 400 mg, 600 mg/kg) for 14 days, followed by exposure to human coronavirus 229E (HCoV-229E) in a dark and humid environment. The results showed that mice taking medium and high doses of red ginseng extract were more active than those in the control group that did not receive red ginseng extract. In terms of improving lung indicators, mice in the highdose group showed significant improvement in lung indicators. Significant improvements were observed in lung tissue stained with HE and viral load testing in the medium and high-dose groups. Additionally, the administration of red ginseng extract reduced the expression levels of inflammation-related cytokines (IL-1β, IL-6, IL-12, TNF-α, IFN-γ), and promoted the expression levels of immune cells CD4+ T cells, CD8+ T cells, and B cells. These results indicate that red ginseng has a significant preventive effect on coronavirus pneumonia caused by HCoV-229E and related virus attack pulmonary syndrome, and provide laboratory evidence for clinical use.

The above research results have laid a scientific foundation for the study of red ginseng. At the same time, it is hoped that red ginseng can play an important role in the health of people around the world.

Prof. Shi-Shan YU, Chairman of the State Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College (IMM, CAMS & PUMC) (Mainland China)

Throughout history of Traditional Chinese Medicine (TCM), endangered animal medicinal materials, including musk, bear bile, and Saigae tataricae Cornu (antelope horn), have held a central position in managing critical and acute health conditions. Their effectiveness is underpinned by their unique therapeutic attributes, swift onset of action, and profound curative potential. Researching and developing substitutes for endangered Chinese animal medicinal materials constitutes a pressing national priority and is of great importance to safeguarding the welfare of wild and endangered animal populations and ensuring the sustained development of TCM.

Academician De-Quan Yu's groundbreaking invention of "Artificial Musk" has offered a pioneering research model and a wealth of instructive experience, paving the way for the development of artificial substitutes for endangered Chinese animal medicinal materials. Building upon this foundation, we have further developed and refined the research strategy, encompassing several critical stages: (1) Undertaking exhaustive analysis to define the structural attributes, types, contents, and relative proportions of chemical constituents within endangered Chinese animal medicinal substances. (2) Developing multifaceted pharmacological modeling system capable of deciphering traditional indications and reflecting the empirical wisdom inherent in TCM practice. (3) Establishing correlations among traditional

indications, biological activities, and chemical compositions of these materials. (4) Identifying and quantifying the individual efficacies contributed by each component, thereby enabling the validation of the key therapeutic substances. (5) Integrating cutting-edge techniques from chemistry, enzymology, and associated disciplines to facilitate the environmentally friendly preparation of the key therapeutic substances. (6) Optimizing and restructuring formulations based on empirical and statistical evidence, to create chemically and pharmaceutically equivalent artificial substitutes for endangered Chinese animal medicinal materials.

Through extensive research, we have successfully elucidated the key therapeutic substances in bear bile and antelope horn. Consequently, we created artificial substitutes—referred to as "Artificial Bear Bile Powder" and "Artificial Antelope Horn Powder"—which replicate the comparable chemical composition and distinctive therapeutic properties of their natural equivalents. Presently, the Artificial Bear Bile Powder has satisfactorily completed Phase II clinical trials, proving to be clinically equivalent and comparably safe to the conventionally used drained bear bile powder, exhibiting a reduced frequency of adverse reactions. The Artificial Antelope Horn Powder has finished its preclinical research phase and progressed to the Pre-IND stage. These research efforts are expected to decisively tackle the enduring supply issues surrounding bear bile and antelope horn as medicinal resources, and hold considerable significance for the preservation of endangered species and the advancement of sustainable practices in traditional Chinese medicine.

Key words: endangered Chinese animal medicinal materials, unique therapeutic substances, original artificial substitutes, Artificial Bear Bile Powder, Artificial Antelope Horn Powder.

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Prof. Jing SHU, Vice President of Shanghai University of Traditional Chinese Medicine (Mainland China)

How to adapt to the pace of development in the new era, tell the story of traditional Chinese medicine to the world, enable the world to share the achievements of traditional Chinese medicine, and better promote the internationalization of traditional Chinese medicine is a major issue we have to face. Now taking the current situation of the internationalization of education in Shanghai University of Traditional Chinese Medicine and the problems encountered in its development as the starting point, I would like to talk about the reform and development of the internationalization of education in traditional Chinese medicine.

Prof. Zhixiu LIN, Director and Professor of School of Chinese Medicine, The Chinese University of Hong Kong (Hong Kong)

Hong Kong Institute of Integrative Medicine at The Chinese University of Hong Kong (HKIIM) was established in 2014, with its mission to construct clinical evidence on the effectiveness and safety of Chinese medicine for common disease through conducting clinical trials. Over the past decade, we have successfully secured more than 9 external research grants, completed 8 clinical trials, and with 7 studies are currently ongoing. We have published around 15 research articles based on he clinical research. In this talk, we will introduce the work that have been completed and are ongoing in the HKIIM, demonstrating our steadfast endeavors for establishing clinical evidence on Chinese medicine.

Dr. CHAN Kam Wa, Assistant Professor of Hong Kong Baptist University (Hong Kong)

Chinese medicine has been well-used for thousands of years. How could we effectively translate the accumulated wisdom in the clinical practice of traditional Chinese medicine to manage the disease burden that we are facing? The conventional model of developing new drugs from basic science, preclinical studies to clinical trials takes time and the yield is unsatisfactory. The reversed approach could be a more efficient way in repurposing Chinese medicines. Here we present 2 previous diabetes-related studies that used this approach and being shown effective in diabetic kidney disease.

Dr. YUAN Man, Shanghai University of Traditional Chinese Medicine (Mainland China)

Yinuo Capsule, approved by the CFDA in 2006 as a Class 5 TCM-based new drug, is made from Motherwort (Leonurus ja ponicus Houtt.), and is primarily used to treat bleeding after medical abortion. Using modern separation techniques combined with mass spectrometry, we systematically identified the main chemical components of Yinuo Capsules and established methods for measuring their content, ensuring the stability, safety, and efficacy. Further research revealed that the main components, such as stachydrine and leonurine, have pharmacological effects including regulating uterine smooth muscle, promoting angiogenesis, and inhibiting mast cell-mediated allergic inflammation.

Prof. WANG Zhiyu, Deputy Department Head and Professor of Breast Disease Hospital, Guangdong Provincial Hospital of Chinese Medicine (Mainland China)

Through Meta analysis, we demonstrated that depression is an independent risk factor for breast cancer recurrence and metastasis. Clinically, SNS could improve the depression score and quality of life of breast cancer patients. Molecular elucidation revealed that SNS and its active ingredient naringenin could inhibit breast cancer growth and metastasis via modulating liver cholic acid/ estrogen metabolism pathway, spleen MDSCs mobilization and GRP78/LRP5 stem signaling.

Prof. CHANG Chen, Founder of Chinese Essence Medical Group (Hong Kong)

Artificial intelligence (AI) technology is increasingly used in the medical field, Chinese Essence Medical Group focus on the development and application of AI in traditional Chinese medicine (TCM), especially for eczema diagnosis and treatment. The Group wants to find

precise and objective indicators to evaluate the efficacy of TCM, which would help promote TCM to the world. By collecting and analyzing the patients' eczema morphology and the four diagnostic information, the AI brain of TCM would give reference diagnosis and provide clinical treatment protocol for TCM practitioner, particular for the less experienced one.

Prof. YU Zhiling, Professor of School of Chinese Medicine, Hong Kong Baptist University (Hong Kong)

It was found that ginsenoside Rg1 exerts anti-eczema effects in a mouse model without overt toxicity. I was further found that the compound inhibits M2 macrophage polarization, in which AMPKα inactivation is involved, in mouse lesional skin and in cultured cells. These novel findings indicate that ginsenoside Rg1 can be developed into an effective and safe anti-eczema agent. This study was supported by Laboratory JaneClare Limited.

Prof. Timothy Tin Lok TAM, Chief Operation Officer of Ling Nam Medicine Factory (HK) Ltd. (Hong Kong)

On December 31, 2021, the State Administration of Traditional Chinese Medicine and the Office of the Leading Group for Promoting the Construction of the "Belt and Road" National Policy which jointly formulated the "Development Plan for Promoting the High-Quality and Integration of Traditional Chinese Medicine into the "Belt and Road" countries includes China, ASEAN, West-Asia, Middle Asia, South Asia, Middle-East Europe and commonwealth of independent states between 2021-2025. The policy ultimately aims to build 30 high-quality overseas centers for traditional Chinese medicine in cooperation with countries co-building the "Belt and Road Initiative", promulgate 30 international standards for traditional Chinese medicine, create 10 overseas communication brand projects for traditional Chinese medicine culture, and build 50 international cooperation base for traditional Chinese medicine, build a number of national traditional Chinese medicine service export bases, strengthen the construction of overseas registration service platforms for traditional Chinese medicine products. Such as Ointment, Liniment and Patch, etc. have a prolong history and what are the past, present and future of the External TCM in those "Belt and Road" countries.

Prof. Justin Che-Yuen WU, Associate Dean (Health Systems) of Faculty of Medicine, The Chinese University of Hong Kong (Hong Kong)

To implement integrative Chinese and Western medicine in digestive diseases, we focus on diseases that fulfil these criteria: 1. common, chronic or recurrent in nature, 2. no effective treatment, 3. marked side effects or high costs with the use of conventional Western medicine, 4. presence of well accepted Chinese medicine treatment with high demand in the public. In CUHK, we have pioneered integrative model that is based on high-quality evidence, respect of Chinese medicine theoretical basis, multi-disciplinary team with mutual respect and trust. The approach addresses three fundamental questions of integrating Chinese and Western medicine: effectiveness, safety and practicalities.

Ms. PEI Hong, General Manager of GKH Pharmaceutical Ltd. (Mainland China)

Tongkang Tablets is a pure traditional Chinese medicine patent medicine independently developed by Guangzhou Kanghe Pharmaceutical. It is mainly used to treat repeated upper respiratory tract infections in physically weak children and to improve the immunity of children.

It has been included in the "Pediatrics of Traditional Chinese Medicine" in the higher medical and pharmaceutical college textbooks of the national "12th Five-Year Plan", "13th Five-Year Plan", and "14th Five-Year Plan", the "22 specialties and 95 diseases - TCM diagnosis and treatment plans" of the National Administration of Traditional Chinese Medicine, and the "Guiding Principles for Pediatric TCM Medical Techniques and Proprietary Chinese Medicines Use" jointly compiled by the Maternal and Child Health Care Department of the National Health Commission and the National Administration of Traditional Chinese Medicine; in 2021, the "Domestic Guidelines for Diagnosis and Treatment of Pediatric Cough" positioned Tongkang Tablets as a therapeutic drug for "qi deficiency cough" in repeated respiratory tracts in children. Because Tongkang Tablets is a sugar-coated chewed tablet, and the compliance of children under 1 year old taking it is relatively poor, therefore, our company further improved the dosage form of Tongkang Tablets to the granular form, and carried out research on the substance basis and action mechanism of the function, pharmacological and toxicological research, established product quality standards and characteristic spectra, etc., and through a large number of clinical research and human use experience, it was improved into a more suitable granular formulation for children to apply to the National Medical Products Administration for approval number.

Ms. Ivy JIA, General Manager of Tong Han Chun Tang Co. Ltd. (Mainland China)

Adhering to the health philosophy of "Dietary nourishment is better than medicinal nourishment" , exploration on the modern application of TCM prescriptions under the concept of food and medicine homology has never stopped, especially in the Ginseng category. The Research and results of the representative Ginseng product series from a TCM brand with over 200 years' history, with its unique and validated effects, showcase the perfect fusion of traditional Chinese medicine with modern science.

The 20th International Postgraduate Symposium on Chinese Medicine

Entering its 20th edition, the captioned Symposium was held on the second day of ICMCM, gathering 10 postgraduate students from Mainland China and Hong Kong to share their latest findings in Chinese Medicine. Their presentations were judged by professors from renowned institutions, such as Hong Kong Baptist University, The University of Hong Kong, Hong Kong University of Science and Technology and The Hong Kong Polytechnic University.

Poster Session

Following from last year's overwhelming response, a Poster Session was displayed at the adjacent rooms of the conference, featuring the latest research findings in traditional Chinese medicine by researchers from renowned institutions. A total of 532 participants visited the poster session during the conference.

Conference Booklet

To provide more details of the event and presentations to the audience, a supplementary conference booklet dedicated to ICMCM 2024 was compiled and distributed at the event both physically and digitally. With over 300 pages in total, the booklet includes abstracts of the presentations from the main conference, International Postgraduate Symposium, and poster sessions.

Well Recognised Event Approved by Attendees

A post-event questionnaire was conducted with more than 200 participants responded. 94% respondents rated the ICMCM as above average to excellent and found it very helpful/ useful to their work.

For more information or any inquiries about the Conference, please contact icmcm2024@hktdc.org or (+852) 1830 668.

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