

EDITORIAL

Modified Traditional Chinese Medicine Formula: Is It Still Effective?

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Traditional Chinese medicine (TCM) is a medical system recorded over 2,000 years ago and it is making a comeback in the 21st century. Basic theories of TCM are based on the Chinese philosophy of *Yin-Yang*, *Qi* and the Five Elements (Ma et al., 2021). In TCM, balance and harmony with the environment (nature) are keys to good health and imbalances will lead to illnesses (Cheung et al., 2020). One of the approaches used by TCM practitioners to treat illnesses is the use of natural medicine derived from plants and animals (Ma et al., 2021). In practice, a combination of two or more medicinal materials (known as TCM formulas), having synergistic effects, is often used to achieve optimal therapeutic efficacy, while attenuating toxicity (Zhang et al., 2017). However, some of the materials derived from animal and plant species, such as the rhinoceros (*Rhinocerotidae*), tiger (*Panthera tigris*) and caterpillar fungus (*Ophiocordyceps sinensis*), which are traditionally used, are now endangered (Cheung et al., 2020). Besides, the distribution of some plant species and substances derived from these species, including *Ephedra* spp. (Ma Huang), *Aconitum* spp. (Fu Zi and Chuan Wu) and *Aristolochia* spp. (Mu Tong and Fang Ji) are restricted or banned in some countries due to their toxicity (Fleischer et al., 2017). Therefore, a question arises as to whether the modification of TCM formulas to eliminate these ingredients could affect their therapeutic efficacy.

Several studies have shown that modified TCM formulas displayed very similar effects as the original formulations, suggesting that

replacement or removal of certain ingredients is possible without significantly affecting the overall efficacy. A study by Wang et al. (2017) found that the modified Yimusake formula to treat erectile dysfunction displayed similar mechanisms as the original formula, which contained three animal materials (glandular secretion of male musk deer, a faecal product of sperm whale and external genital organs of male cattle). Another study by Fang et al. (2013) also showed a positive outcome from replacing the rare herb, *Forsythia suspensa* in the formula of “the seventh of Sang Ju Yin plus/minus herbs (SSJY)” with the dried bulb of *Fritillaria thunbergia*. In addition, they also successfully simplified two formulas, “the fifth of Du Huo Ji Sheng Tang plus/minus herbs (FDHJST)” and “Fang Feng Tang” (FFT) to a new formula “Fang Feng Du Huo Tang” (FFDHT), which exhibited similar pharmacological effects as the original ones.

Many practitioners nowadays are replacing endangered ingredients with more sustainable alternatives in their formulas. But despite considerable progress, the emergence of new diseases continues to pose a challenge to TCM practitioners, especially in western countries, as they need to find alternatives for the endangered or banned ingredients. Occasionally, the endangered or banned ingredient is one of the main components in the formula. For instance, *E. sinica* is a major herb in TCM prescriptions for the treatment of coronavirus disease 2019 (COVID-19) (Luo et al., 2020) but it is banned in many countries, including Malaysia. To make modifications to the original formulas, thorough studies are essential to assess whether the modified formulas are safe for human consumption and just as effective as the original ones. Simply removing the affected ingredient and labelled as “modified” is not acceptable as this may mislead consumers.

In the 21st century, the modernization of TCM is necessary to unleash its full therapeutic potential through modern technology and modern thought, while preserving its ancient

methods. It could also help to protect endangered plant and animal species as well as to ensure the safety of consumers. Since the prevalence of TCM use is increasing worldwide, more basic and clinical research is needed to support this medical system to achieve its ultimate aim of benefiting human health at present.

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