



Commentary

Experience Learned from the COVID-19 Pandemic

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Introduction

The COVID-19 Pandemic started in China in late 2019. The close geographical relationship between Hong Kong and Mainland China would not allow Hong Kong to be immune from the pandemic, which subsequently affected the island in early 2020 and kept its vitality in a wave-to-wave fashion. Four periods of relatively mild infectivity were followed by an episode of threatening experiences in the fifth wave [1,2].

Throughout the pandemic years of 2020 to 2022, Hong Kong Health Authorities followed closely and effectively WHO's guidance on vaccine provisions and effective remedial clinical measures while at the same time took serious reference to China's approach of using Traditional Chinese Medicine in parallel with modern clinical treatment [3-5].

Evaluation of traditional chinese medicine in the management of covid-19

WHO convened a meeting of experts to evaluate the role of Traditional Chinese Medicine (TCM) in the management of COVID-19 in February 2022 in Geneva.

The meeting considered three reports on traditional Chinese medicine and COVID-19, including clinical services, research and evidence-based evaluations provided by national expert groups in China. The final evidence-based evaluation report focused on conclusions from different sources, as well as 12 randomised controlled trials (RCTs) in China, which had been registered and published [6]. After 3 days of intense reporting and discussions, recommendations were made.

The published statements included the following: -

There were promising data to suggest that TCM was beneficial in reducing the risks of progression from mild-to-moderate cases to severe COVID-19; TCM might shorten the time for viral clearance; resolution of clinical symptoms; and length of hospital stay when compared with conventional treatment alone [7].

Innate immunological defence and "trained immunity"

TCM has been used in China for centuries for the prevention and treatment of upper respiratory infections [8]. Apart from traditional reports and records, could there be more objective indications of its clinical value? If so, does TCM help to resist infection or facilitate its eradication?

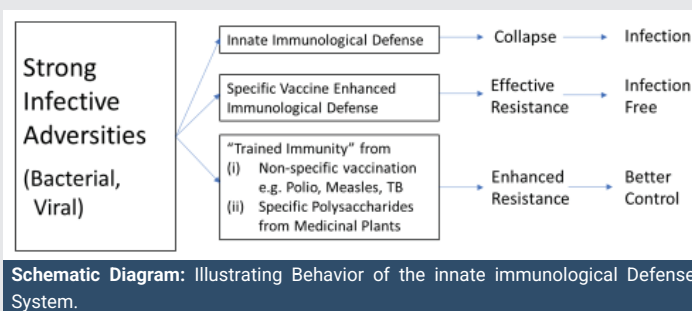
In 2003, the SARS epidemic occurred in Asia. Since then, the popular use of TCM for the clinical management of respiratory infection has been established. Numerous clinical reports covering the immunological effects of the herbs used were published [8-10]. In the laboratory, the use of in vitro and in vivo platforms also succeeded in demonstrating how relevant TCM herbal extracts could boost the immunological defence system [11,12]. Our own laboratory work convinced us that cytokines closely related to inflammation and chemokines directly related to cellular responses could be upregulated in animals after consumption of the relevant herbs [13-15].

Our immune system is responsible for combating invading organisms, and under normal circumstances, without unusual virulent invasions, the system works well, without the need

for any support. It is this general immunological strength of resistance to infections that keeps us away from being infected. This extra defence strength is innate in the healthy individual, not related to any medication or vaccine. This innate defence ability has been named “Trained Immunity”, which offers protection against infection beyond vaccines [16].

It has been found that innate immune responses could be enhanced and sustained following initial exposures to infectious pathogens, resulting in an immunological memory which helps to protect against re-infection. Experimental evidence was collected in animal models of fungal *Candida albicans* infection. Clinically, observations related to general resistance to infections after early life vaccinations against TB, measles, polio, and others have been made after extensive studies, and sustained immunological defence was observed on different occasions. Netea’s research group in the Netherlands suggested the term “Trained Immunity” to signify this phenomenon [17–19].

Trained Immunity may boost the body’s defence. Some polysaccharides in fungi and medicinal plants help to support immunological activities via the macrophage system. The herbal formulae and the herbs used could well be active candidates for the Trained Immunity Construction [20]. (Diagram).



Discussion

The COVID-19 pandemic has subsided, although cases of influenza-like infection were frequently reported to be related to variants of COVID. Upper respiratory tract infections would remain a bothersome health problem [21].

Since 1911, 7 epidemics of pandemic scale related to influenza-like infection occurred in China: 4 of which (1918, 1957, 1968, 1977) affected China itself and other countries; while 3 others affected China alone (1997, 1999 and 2003). The 1918 pandemic was the most damaging one ever reported of the influenza virus. China apparently was not as severely hit, and the mortality was low. One reason postulated was that although modern medicine was not developed in China and no vaccine was available, TCM contributed a lot to the control of the infection [22,23].

We are still in the active era of vaccine creation, which is taken as the only solution for infection prevention. It is a real pity that the innate aspect of an individual’s ability of immunological defense has not been included in most

discussions on infection prevention. There is still hope that before the COVID-19 pandemic disappears from people’s minds, the immunological support given by specific chemicals and herbs could be fully explored and offered as a powerful self-defence booster. As advised by the WHO experts, more systematic research efforts and arrangements on the effects of relevant herbs to boost innate immunological defence need to be considered.

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