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## Letter to the editor

## Reply to “The use of traditional Chinese medicines to treat SARS-CoV-2 may cause more harm than good”



Dear Sir,

To the concern of the letter entitled “The use of Traditional Chinese Medicines to treat SARS-CoV-2 may cause more harm than good” Paul Gray, Yvonne Belessis, we reply as follows.

Traditional Chinese medicine (TCM) has indeed brought benefits for COVID-19 patients in China. Besides treatments with the *Qingfei Paidu* Decoction (QPD) and *Qingjin Jianghuo* Decoction (QJD) mentioned in the previous article [1], many other TCM prescriptions used for COVID-19 patients in China have been reported to be effective, including *Lianhua Qingwen* Granule (LQG), *Toujie Quwen* granules (TQG), and *Reyanning* Mixture (RYM). Most of the published cases referred patients using TCM on the basis of chemical drug therapy. For example, Cheng Dezhong et al. [2] reported a study demonstrating the therapeutic efficacy of LQG combined with chemical drug therapy treating COVID-19 patients. For a 7-day treatment, the control group was given nutritional support, symptomatic treatment, antiviral and antibacterial drugs, and the treatment group was treated with LQG combined with nutritional support, and treatment with antiviral and antibacterial drugs. After 7 days, the disappearance rates of main symptoms (fever, fatigue, cough) in the treatment group were 83.7 % (fever), 61.3 % (fatigue) and 62.2 % (cough), respectively, whereas in the control group they were 61.0 %, 34.3 % and 35.9 %, respectively; the clinical effective rate (eliminating main symptoms) of the treatment group was 86.3 % in comparison with the control group in which it was 68.6 %.

Fu Xiaoxia et al. [3] showed that the syndromes of COVID-19 patients could be alleviated by an early and prompt treatment of TQG combined with arbidol and ambmxol hydrochloride. During the treatment, the control group was given arbidol and ambmxol hydrochloride, and the treatment group was treated with TQG combined with arbidol and ambmxol hydrochloride. The report found statistically significant difference between the two groups after 15 days of treatment: the absolute value of lymphocyte was up-regulated in the treatment group when compared with the control group ( $P < 0.05$ ), and C-reactive protein was down-regulated in the treatment group when compared with the control group ( $P < 0.05$ ). Moreover, the clinical effective rate of the treatment group could achieve to 89.20 % when compared with that of control group 69.44 % by the TCM syndrome index.

Yang Mingbo et al. [4] reported a multi-center clinical observation study of RYM improving the clinical symptoms in the treatment of COVID-19. For a 7-day treatment, the treatment group was given RYM combined with lopinavir, alpha-interferon, abidol hydrochloride and ribavirin, while the control group was given lopinavir, alpha-interferon, abidol hydrochloride and ribavirin. The remission rate of chest CT in the treatment group was 88.46 %, which was higher than the 73.91 % registered in the control group. The viral nucleic acid negative conversion rate in the treatment group was 96.15 %, which was statistically

higher than that in the control group, which was of 60.87 % ( $P < 0.01$ ).

*Scutellariae Radix* (*Scutellaria baicalensis* root, Skullcap) has also been used successfully, which is a crude drug frequently used in TCM clinical prescriptions. Currently, more than 180 prescriptions containing *Scutellariae Radix* are included in the latest version of Chinese Pharmacopoeia (2015). *Scutellariae Radix* is commonly used to treat diseases such as trachoma hepatitis, hypertension, acute respiratory infection, acute gastroenteritis, infantile diarrhea, vomiting during pregnancy and other diseases [5]. Meng Xiangrui et al. [6] demonstrated that Qingfei Decoction (QFD, containing *Scutellariae Radix*, 15 g/each, twice/day) combined with ulinastatin is effective in the treatment of severe pneumonia, which could increase serum TNF-alpha level and procalcitonin (PCT) expression. For a 10-day treatment, both the observation group and control group were given ulinastatin based on the conventional treatment, and additional QFD was given to the observation group. The effective rate of the observation group reached 93.4 % which is significantly higher than the 83.5 % measured in the control group, with a significance of  $\chi^2 = 4.360$ ,  $P = 0.037$ . The adverse event rate in the observation group was 4.4 (4/91), which was significantly lower than 13.2 (12/91) in the control group, with a significance of  $\chi^2 = 4.390$ ,  $P = 0.036$ . In an *in vivo* experiment, Zhi Hai-Juan et al. [7] reported the therapeutic effects of major flavonoids-enriched chemical components extracted from *S. baicalensis* root (FESR) on acute lung injury induced by influenza A virus. They also concluded that the underlying action mechanism might be closely associated with anti-inflammatory, antiviral and anti-complementary properties of FESR.

Based on current treatment situation, the number of cured COVID-19 patients has largely increased in China, which suggests that TCM may be an effective option integrated with chemical drug therapy for the treatment of COVID-19. Due to an insufficiency of published large-sample clinical data from COVID-19 patients, the efficacy and side effects of current treatment require further exploration. It is therefore recommended to take and apply TCM prescription under the guidance of TCM practitioners.

#### Declaration of Competing Interest

There are no conflicts to declare.

#### Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.phrs.2020.104775>.

## References

- [1] J.L. Ren, A.H. Zhang, X.J. Wang, Traditional Chinese medicine for COVID-19 treatment, *Pharmacol. Res.* 155 (2020) 104743.
- [2] Cheng Dezhong, Wang Wenju, Li Yi, et al., Analysis of 51 cases of new coronavirus pneumonia treated with traditional Chinese medicine Lianhua Qingwen granule: a multicenter retrospective study, *Tianjin J. Trad. Chin. Med.* (2020), <http://kns.cnki.net/kcms/detail/12.1349.R.20200310.1024.004.html>.
- [3] Fu Xiaoxia, Lin Luping, Tan Xinghua, Clinical study on treatment of 37 cases of new coronavirus pneumonia with integrated traditional Chinese and western medicine, *Trad. Chin. Drug Res. Clin. Pharmacol.* (2020), <https://doi.org/10.19378/j.issn.1003-9783.2020.00>.
- [4] Yang Mingbo, Dang Shuangsoo, Huang Sheng, et al., Multi-center clinical observation of Reyaning mixture in the treatment of new coronavirus pneumonia, *Chin. J. Exp. Trad. Med. Formulae* (2020), <https://doi.org/10.13422/j.cnki.syfjx.20201321>.
- [5] T. Zhao, H. Tang, L. Xie, et al., *Scutellaria baicalensis* Georgi. (Lamiaceae): a review of its traditional uses, botany, phytochemistry, pharmacology and toxicology, *J. Pharm. Pharmacol.* 71 (9) (2019) 1353–1369.
- [6] Xiang-rui Meng, Xi-wei Ji, Dan Zhao, et al., Effect of Qingfei decoction with ulinastatin on severe pneumonia and serum TNF- $\alpha$  and PCT, *World J. Integr. Trad. Western Med.* 15 (1) (2020) 151–159.
- [7] H.J. Zhi, H.Y. Zhu, Y.Y. Zhang, et al., In vivo effect of quantified flavonoids-enriched extract of *Scutellaria baicalensis* root on acutelung injury induced by influenza A virus, *Phytomedicine* 57 (2019) 105–116.

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