

# Specific Applications of Traditional Chinese Medicine (TCM) in the Prevention and Treatment of COVID-19 (2019-nCoV) & Integration of TCM into Educational Curriculum

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Please Note: Below are general guidelines for the prevention and treatment of COVID-19. However, each patient's specific condition should be evaluated and treated on a case-by-case basis, following proper differential diagnosis of symptoms, and herbs are to be prescribed accordingly. Furthermore, herbs and medications should only be used under the supervision of a qualified medical practitioner, as self-treatment could result in harm or disease progression.

Disclaimer: This article is compiled and translated by Lori Hsu, to inform the reader how COVID-19, the 2019 novel coronavirus, is currently being treated in China, and how measures are being taken to prevent further spreading of the virus. For those concerned that they may have been exposed to such a virus, or, for those who may exhibit cold or flu like symptoms, please immediately contact your primary care physician, your local hospital or the Center for Disease Control (CDC). For additional information about COVID-19, please contact the World Health Organization (WHO), the CDC and/or the Food and Drug Administration (FDA).

*This epidemic, which originated in Wuhan, is still considered to be very serious and imminent. Below, the San Jia Chuan Zhen 三甲传 Blog, shares recent accounts of what a county-level hospital in Henan Province faces in treating such an epidemic, hoping to provide specific guidelines and counsel to other such medical treatment facilities faced with addressing COVID-19. Information for the following account is provided by Dr. Tang Ying, the director of the Infectious Disease Department at the hospital.*

Since January 21, 2020, there have been twenty-five individual patients admitted to our hospital, each of them exhibiting a fever. Amongst them, four were confirmed to have coronavirus, seventeen returned from Wuhan, six were in close contact with locals, and two were from other regions (where there were confirmed cases). Today, all twenty-five of them have recovered and returned safely home. Seventeen people were discharged (including one of them with confirmed infection), eight others indicated as in normal, stable condition in the hospital under observation, to be discharged in a few days. **None of the thousands of employees in our hospital were infected.**

As a county hospital, these results are only possible given our specific training in and application of Traditional Chinese Medicine. Below, please find an account of our experiences at the time of treatment, which may prove to serve as guidelines for others in the prevention and treatment of COVID-19.

### **Overall Concepts:**

- It is imperative to protect each and every member of any medical and administrative staff at a hospital or medical clinic. If the staff becomes sick, obviously patient care would suffer, not to mention the vector for transmission would increase significantly, as hospital staff has contact with many patients and their families.
- It is also essential to provide expedient, accurate and potent care by having a strong structure of support from within all hospital departments, working together in a coordinated effort toward the common goal of curing those that are ill while protecting those that are providing care.

- It is important to treat this illness according to one of the foundational principles of Chinese medicine called the Six Stages Diagnosis of *Zhang Zhong-Jing's* “Treatment of Febrile and Miscellaneous Diseases from the *Shang Han Za Bing Lun*”<sup>1</sup>, as the virus can quickly enter all three Yang and all three Yin stages<sup>2</sup>, which means that the infection can advance quickly by going deeper and deeper into the body. Hence, swift, precise and powerful treatment is essential to reduce morbidity and mortality, heal patients and protect the hospital staff and surrounding populations.

### General Guidelines:

In order to protect medical staff and hospital personnel from being infected, we have adopted the following measures:

All staff in the hospital must consume Chinese herbs, which are provided free of charge by the hospital, and distributed to staff members by each departmental office. Furthermore, individual risk of medical staff members is to be assessed on a case-by-case basis, and specific herbal formulaic treatment is to be provided continually.

### Specific Guidelines

1. Staff that do not come in direct contact with patients exhibiting fever or other signs of infection, such as administrative, logistical, surgical and general medical staff, are simply treated with formulas to improve their *Zong Qi* (Chest Qi) as when this Qi is strong and abundant, the exterior pathogen cannot easily invade the body. In this case, *Gan Cao Gan Jiang Tang* (**Licorice and Ginger Decoction**) 甘草干姜汤 is recommended.
2. Medical staff in contact with fever clinics, emergency departments, and general fever wards, who may have daily and direct exposure to infected patients (and then return to their homes and communities each night), need additional herbs to

1 One of the four canonical works of Traditional Chinese medicine, along with *Huang Di Nei Jing*, *Jin Gui Yao Lue*, and *Wen Bing Xue*

2 Dr. Yang discovered that during early onset of the disease may present with combined disease from the three yang stages.

strengthen and protect them so they do not get sick and themselves become vectors for transmission. Hence, the formulas used may include *Gan Cao Gan Jiang Tang* (**Licorice and Ginger Decoction**), *Gui Zhi Tang* (**Cinnamon Twig Decoction**) 桂枝汤, *Fu Ling* (**Poria**) 茯苓 and *Bai Zhu* (**Rhizoma Atractylodis Macrocephalae**) 白术. These formulas help to adjust the balance of Yin and Yang and drain excess dampness from the body. When the body is in a state of balance, it is less likely to be invaded by pathogens.

3. Medical personnel within the infection ward itself, who have constant and close contact with sick patients for extended periods of time, need even stronger herbs. Hence, the following formulas may be added:

**Herbs for Clearing the Lungs:** In addition to the above formulas, add *She Gan Ma Huang Tang* (**Belamcanda and Ephedra Decoction**) 射干麻黄汤. This preventive treatment protocol is based on the fact that it is very cold in the wintertime. Hence, the lungs can more easily retain fluid this time of year.<sup>3</sup> Also, the air conditioning in the room may also contribute to retention of fluids in the lungs.

4. Although the hospital requires half-monthly rotations, staff member's physical strength is still overdrawn at this stage, due to the unrelenting demands of this persistent epidemic. Hence, due to rampant overwork and associated exhaustion, everyone is given *Fu Ling Si Ni Tang* (**Frigid Extremities Decoction with Poria**) 茯苓四逆汤 to enhance their Yang energy.
5. If a member of the medical staff begins to exhibit a dry throat, it is recommended to immediately prescribe *Ge Gen Tang* (**Kudzu Decoction**) with *Fu Ling* (**Poria**) and *Bai Zhu* (**Rhizoma Atractylodis Macrocephalae**) 葛根汤加茯苓、白术;

In summary, in order to optimally protect hospital personnel, established TCM herbs and formulas have been dispensed freely to the entire hospital staff. The herbs dispensed to

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<sup>3</sup> Even in the summer, when entering directly from a very hot place to a very cold air-conditioned room, it can also lead to the production of retained fluids in the Lungs. This strategy is based on the concept of clearing the water retention and promoting better blood flow to the Lungs so the Lung qi can become unobstructed.

these workers are formulated on the basic principles of Chinese medicine, and adjusted according to the roll of the staff member, and taken in a timely and continuous manner. These herbs are all prepared in the hospital pharmacy according to specific guidelines. **We believe that this strategy has protected more than 1,000 employees in our hospital from infection.**

### Why Must We Act Quickly?

We have learned from history that when epidemics emerged in the past, infected people may not even live long enough to report illness, and, thus large populations in villages had perished precipitously. This time in Wuhan, the number of people infected with this novel coronavirus resulted in a sudden escalation of pneumonia cases. Therefore, the treatment strategy employed must be efficient to address symptoms rapidly and avoid the pathogen penetrating deeper into the body and causing pneumonia, or to swiftly clear any pneumonia that has set in.

Optimally, **we should treat the patient with herbal medicine within two hours of learning of their diagnosis.** Initially, immediate treatment fell on the shoulders of night nurses who had to cook the herbs themselves, to make sure patients received their medicine in a timely manner, but now the process has been moved to the pharmacy.

Initially, for each infected patient who came in, a member of the medical staff would call the pharmacy to let them know that the patient needed a formula immediately. This meant that pharmacy staff was unable to soak the herbs for the standard two hours before they were given to a patient. Later, this process evolved into the hospital director opening a branch of the Chinese medical pharmacy in the south part of the hospital so that necessary herbs could be properly prepared and dispensed to patients within ten minutes. Eventually, the most commonly used herbs were prepared ahead of time, with five portions of each set at nurse's stations for immediate disbursement to patients.

## Why Must We Act Powerfully/Potently?

The medication and treatment must be potent enough to inhibit the progression of the illness. As in martial arts one responds swiftly to effectively inhibit the enemy. So, too, potent herbs must be mobilized to strongly arrest disease progression. Hence, we often use *Ma Huang* (Herba Ephedrae) 麻黄, *Shi Gao* (Gypsum Fibrosum) 石膏, *Ban Xia* (Rhizoma Pinelliae) 半夏, *Ze Qi* (Herba Euphorbiae Helioscopiae) 泽漆, *Sheng Fu Zi* (Radix Aconiti Lateralis) 生附子 along with other powerful herbs.

## Why Must We Be Accurate?

The word accurate is used in two different ways here. One is that the practitioner must use accurate diagnosis to treat the patient's present condition to adequately. Furthermore, the practitioner must have an understanding of typical disease progression (such as this virus's tendency to enter the lungs and cause pneumonia), to preempt and prevent advancement of the virus, which is one of the major strengths of Traditional Chinese Medicine.

Below are Specific Treatment Strategies:

- 1. If the body temperature is above 37.8 C, give *Da Qing Long Tang* (Major Bluegreen Dragon Decoction) 大青龙汤 immediately instead of waiting for the patient to develop a high fever.** After that, depending on the degree of fever, another dose may be necessary 4-8 hours later.

*Da Qing Long Tang* (Major Bluegreen Dragon Decoction) 大青龙汤:

- *Ma Huang* (Herba Ephedrae) 麻黄 30g
- *Ku Xing Ren* (Semen Armeniacae Amarum) 杏仁 15g
- *Zhi Gan Cao* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) 炙甘草 15g
- *Shi Gao* (Gypsum Fibrosum) raw 生石膏 20-50g
- *Gui Zhi* (Ramulus Cinnamomi) 桂枝 15g
- *Sheng Jiang* (Rhizoma Zingiberis Recens) 生姜 3 slices

- *Da Zao* (Fructus Jujubae) 红枣 10 pieces (cut it open)

This formula is the first choice for an epidemic involving acute respiratory infection. The amount of herbs used in this prescription is adjusted according to specific patient symptoms. The epidemic is aggressive and can enter the interior more quickly than other viruses. Hence, the amount of *Ma Huang* (Herba Ephedrae) must be ample enough so that it can quickly inhibit the disease by ensuring that the passage between the Lungs and skin layer (Wei Qi) is unobstructed. *Shi Gao* (Gypsum Fibrosum) must be adjusted according to the course of disease and body temperature. If the course of disease is long or the body temperature is high, the dose is large; if the course of disease is short or the body temperature is not very high, the dose is less. *Ku Xing Ren* (Semen Armeniacae Amarum) supplements fluids caused by damage due to high body temperature. *Shi Gao* (Gypsum Fibrosum) cools and protects the Lung to prevent injury from the heat. *Gui Zhi* (Ramulus Cinnamomi), *Sheng Jiang* (Rhizoma Zingiberis Recens) and *Gan Cao* (Radix et Rhizoma Glycyrrhizae) work to strengthen the Stomach Qi. *Zhi Gan Cao* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) moderates the heart rate can be increased accordingly.

## **2. If the temperature is below 37.8 C, give *Ge Gen Tang* (Kudzu Decoction) with *Fu Ling* (Poria) and *Bai Zhu* (Rhizoma Atractylodis Macrocephalae).**

***Ge Gen Tang* (Kudzu Decoction) with *Fu Ling* (Poria) and *Bai Zhu* (Rhizoma Atractylodis Macrocephalae).**

- *Ge Gen* (Radix Puerariae Lobatae) 葛根 30g
- *Ma Huang* (Herba Ephedrae) 麻黄 15g
- *Gui Zhi* (Ramulus Cinnamomi) 桂枝 15g
- *Bai Shao* (Radix Paeoniae Alba) 白芍 15g
- *Zhi Gan Cao* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) 炙甘草 15g
- *Sheng Jiang* (Rhizoma Zingiberis Recens) 生姜 3 pieces
- *Da Zao* (Fructus Jujubae) 红枣 10 pieces

- 3. If there is no change in chest imaging, add *She Gan Ma Huang Tang* (Belamcanda and Ephedra Decoction) 射干麻黄汤** to decrease the retention of water in the Lungs; In modern medicine this would be considered pulmonary effusion, pulmonary edema and/or inflammation in the lungs.

*She Gan Ma Huang Tang* (Belamcanda and Ephedra Decoction) 射干麻黄汤

- *She Gan* (Rhizoma Belamcandae) 射干15g
- *Kuan Dong Hua* (Flos Farfarae) 冬花15g
- *Zi Wan* (Radix Asteris) 紫苑15g
- *Ma Huang* (Herba Ephedrae) 麻黄15g
- *Xi Xin* (Radix et Rhizoma Asari) 细辛15g
- *Wu Wei Zi* (Fructus Schisandrae Chinensis) 五味子25g
- *Ban Xia* (Rhizoma Pinelliae) Sheng/Raw 生半夏25g
- *Sheng Jiang* (Rhizoma Zingiberis Recens) 生姜3 pieces
- *Da Zao* (Fructus Jujubae) 红枣10 pieces

- 4. If there is a change in chest imaging at the time of admission, immediately give *Ze Qi Tang* (Euphorbia Decoction) 泽漆汤 and *Fu Ling Si Ni Tang* (Frigid Extremities Decoction with Poria) 茯苓四逆汤。** At this time, if the strength of *She Gan Ma Huang Tang* (Belamcanda and Ephedra Decoction) is insufficient, *Ze Qi Tang* is used to remove the water and phlegm retention in the Lungs. At the same time, it may be necessary to strengthen the Heart by stimulating Yang Qi, and thus *Fu Ling Si Ni Tang* may be appropriate.

*Ze Qi Tang* (Euphorbia Decoction) 泽漆汤 and *Fu Ling Si Ni Tang* (Frigid Extremities Decoction with Poria) 茯苓四逆汤

- *Fu Ling* (Poria) 茯苓15g
- *Zhi Gan Cao* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) 炙甘草15g
- *Gan Jiang* (Rhizoma Zingiberis) 干姜15g
- *Ren Shen* (Radix et Rhizoma Ginseng) Red, 红参15g
- *Sheng Fu Zi* (Radix Aconiti Lateralis) 生附子10g
- *Ze Qi* (Herba Euphorbiae Helioscopiae) 泽漆15g
- *Ban Xia* (Rhizoma Pinelliae) 半夏25g



- *Zi Shen* (Rubia Yunnanensis) 紫参25g
- *Bai Qian* (Rhizoma et Radix Cynanchi Stauntonii) 白前25g
- *Huang Qin* (Radix Scutellariae) 黄芩15g
- *Gui Zhi* (Ramulus Cinnamomi) 桂枝15g
- *Sheng Jiang* (Rhizoma Zingiberis Recens) 生姜3 pieces

**5. If the patient's cough sounds turbid, this may indicate phlegm retention in the trachea. In this case add *Qian Jin Wei Jing Tang* (Reed Decoction Worth a Thousand Gold Pieces) 千金苇茎汤:**

*Qian Jin Wei Jing Tang* (Reed Decoction Worth a Thousand Gold Pieces) 千金苇茎汤:

- *Lu Gen* (Rhizoma Phragmitis) 芦根15g
- *Tao Ren* (Semen Persicae) 桃仁10g
- *Dong Gua Zi* (Semen Benincasae) 冬瓜子10g
- *Yi Yi Ren* (Semen Coicis) 薏苡仁30-50g

**6. If the patient has an irritating dry cough, and water is retained in the diaphragm, add *Ling Gan Wu Wei Jiang Xin Ban Xia Xing Ren Tang* (Poria, Prepared Licorice, Schisandra, Ginger, Asarum, Pinellia and Apricot Kernel Decoction) 苓甘五味姜辛半夏杏仁汤**

*Ling Gan Wu Wei Jiang Xin Ban Xia Xing Ren Tang* (Poria, Prepared Licorice, Schisandra, Ginger, Asarum, Pinellia and Apricot Kernel Decoction) 苓甘五味姜辛半夏杏仁汤

- *Fu Ling* (Poria) 茯苓20g
- *Zhi Gan Cao* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) 炙甘草15g
- *Wu Wei Zi* (Fructus Schisandrae Chinensis) 五味子25g
- *Gan Jiang* (Rhizoma Zingiberis) 干姜15g
- *Xi Xin* (Radix et Rhizoma Asari) 细辛15g
- *Ban Xia* (Rhizoma Pinelliae) 半夏25g
- *Ku Xing Ren* (Semen Armeniacae Amarum) 杏仁15g

7. **If the patient is suffering from ‘heat above and cold below’ syndrome, use *Pao Fu Zi* 炮附子 to warm the lower jiao appropriately. When the Kidney Yang is sufficient, the breath can be well grasped.**
8. **When the patient has nausea, this may mean the disease has entered the Shaoyang level. Modified *Xiao Chai Hu Tang* (Minor Bupleurum Decoction) 小柴胡汤加減 is prescribed in this case.**

**Modified *Xiao Chai Hu Tang* (Minor Bupleurum Decoction) 小柴胡汤加減**

- *Chai Hu* (Radix Bupleuri) 柴胡25g
- *Huang Qin* (Radix Scutellariae) 黄芩15g
- *Zhi Gan Cao* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) 炙甘草15g
- *Ban Xia* (Rhizoma Pinelliae) 半夏25g
- *Dang Shen* (Radix Codonopsis) 党参15g
- *Sheng Jiang* (Rhizoma Zingiberis Recens) 生姜3 pieces
- *Da Zao* (Fructus Jujubae) 红枣10 pieces

The reason the sharing of this information is so vital at this time in history, is that county level hospitals have typically only used western medicine to treat these types of epidemics. Given the success of using Chinese medicinal herbs by this county hospital, we have learned that immediately adopting TCM methods to boost the efficacy of treatment is necessary and warranted.

History and experience prove that there are times that we must rise to meet a difficult medical challenge, and fighting this epidemic has proved to be one of those times. It has been shown that in settings such as this hospital, Chinese medicine has a pivotal roll to play in reducing patient morbidity and mortality. Furthermore, it can be key factor in improving not only patient outcomes, but also in reducing the burden of illness on hospital staff and outlying communities.

From the Western Han Dynasty to the end of the Qing Dynasty, at least 321 large-scale plagues occurred in China. The utilization of Chinese medicine has helped limit

the spread of epidemics than may otherwise be possible. In the history of China, whenever a plague is rampant, Chinese medical practitioners have been on the front line of treatment, and, thus, have helped saved countless lives. Coronavirus is no exception, and Chinese medicine has held up to its historical reputation by showing that it is invaluable in the treatment of COVID-19.

On February 19, 2020, an app was developed to specifically connect COVID-19 patients with TCM volunteer doctors throughout China who are not able to get to Wuhan, the epicenter of the epidemic. Thus far, over 3400 patients have had contact with a medical practitioner over the Internet. Following these on-line patient appointments, formulas are being prescribed and passed directly to local pharmacies for immediate disbursement to patients. In this way doctors are monitoring patient progress and making necessary modifications to their formulas via these Internet appointments. This method of caring for patients is gaining in popularity as it proving an effective method of treating patients, while minimizing the possibility of spreading the disease. These compassionate doctors are also calling their patients daily to ensure patient response to treatments and to ensure that patients are achieving full recovery. This close monitoring of patients, via the Internet, by a devoted medical practitioner, has also served to enhance the patient sense of emotional well being which seems to positively affecting patient outcomes as well. Those who are healing feel that they have a doctor who is readily available to answer their questions, responds to their concerns and be an ongoing touchstone of support until the patient reaches full recovery.

## 非必修也不考试 培养孩子们健康的生活方式 今年秋季起 小学五年级 将陆续开设中医课

近日,一则“浙江省五年级小学生要开始学中医课”的消息受到了市民的广泛关注。记者昨日从宁波市教育局教研室获悉,按照省教育厅的文件,今年秋季开学起,我市小学五年级将陆续开设中医课。不过,课程并非必修,也不会考试,学校对课程安排会有很大的自主权。

### 1 中医课相关教材尚未到位

按照省教育厅文件,要让浙江省五年级小学生开始学中医课,且建议学校每周上一节。课程已明确有专门的配套教材,由浙江省科学技术出版社刊印。教材分上下册,一共有9个单元,其中上册为5个单元。

昨日,记者询问了宁波多所小学,学校表示只是听说该课程,尚未收到相关教材。很多学校尚未开始相关教师的培训,对该课程的了解,也仅限于新闻报道。

宁波市教育局教研室相关负责人称,今年秋季起,宁波600多所学校以各区县(市)为单位,将陆续开展《中医药与健康》课程任课教师的培训,之后,我市小学五年级将陆续开设中医课。目前,江北区已完成相关教师的培训工作。

他说,课程将采用浙江省中医药管理局组织编写、浙江省中小学教材审定委员会审查通过的教材。接下来,市教育局教研室将积极跟进和落实全市课程实施工作,并计划在年底召开全市经验交流会。

### 2 小学生的中医课会学点啥?

开中医课的消息传出后,引起了不少市民的兴趣。很多市民都非常好奇,中医学博大精深,小学五年级的孩子们到底会学点啥?会教孩子们认中草药么?

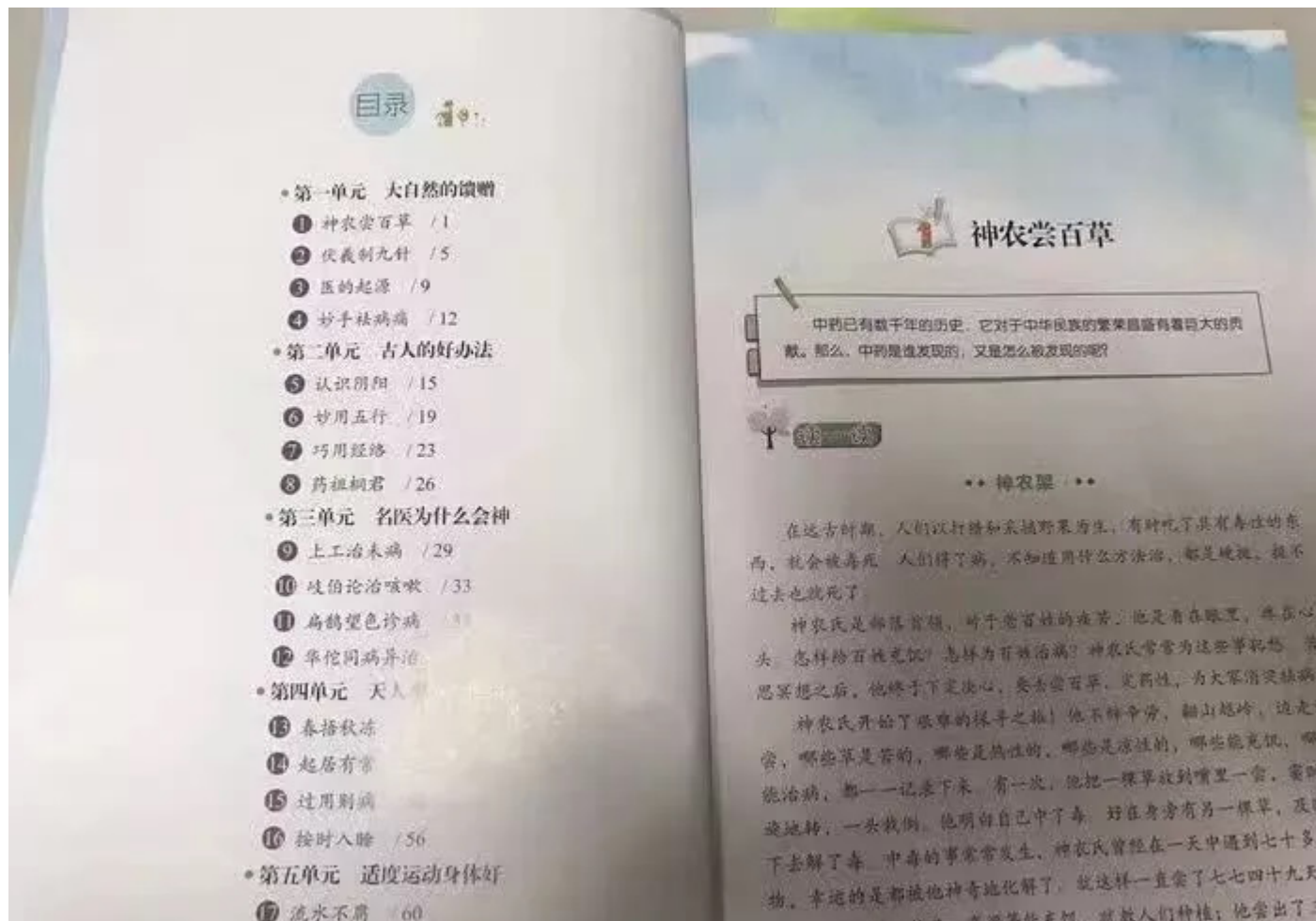
事实上,该课程涉及这方面的倒是并不多。记者从宁波市教育局教研室了解到,这门课的教材较为浅显,主要是以中医角度出发,结合生活化的内容,开展中医药与健康的教育。

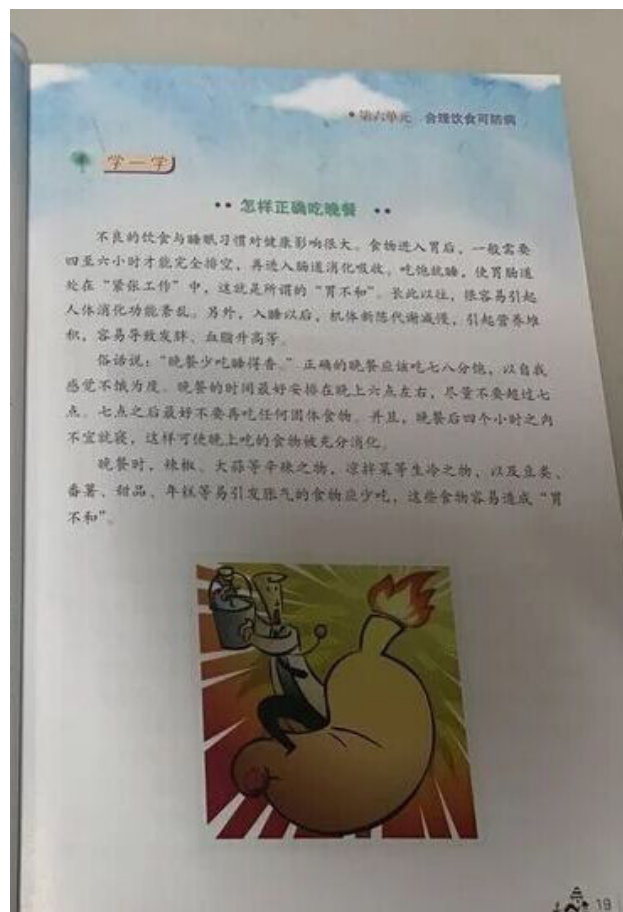
对小学生而言,他们会听到一个个有趣的故事,比如神农尝百草、李时珍编著《本草纲目》、扁鹊见桓侯等。教材内容涉及到中医基础、保健、运动、饮食、情绪、针灸和推拿等特色疗法,渗透着优秀的传统文化与为人处事的哲学。教材内文字不多,文末还有“想一想”“做一做”等,能很好地激发学生学习兴趣。

“主要引导孩子们养成健康的生活方式,从而拥有更为健康的身心。”市教育局教研室丁耀方副主任认为,中医文化源远流长,有助于培养学生的民族自信和自豪。

Given recent success in combating COVID-19 with Chinese herbs, China is realizing the importance of Traditional Chinese Medicine and its role in the treatment and prevention of disease. Thus, starting with the Zhejiang province, Chinese medicine will be added to the elementary school curriculum! Students will begin to learn about the fundamentals of Chinese medicine such as Yin and Yang, Five Element and, Zang Fu theory. Furthermore, students will learn about the concept of holistic medicine, and will be taught that acupuncture and herbs are based in science and knowledge and not

superstition. Shen Nong's story of tasting hundreds of herbs and being poisoned a few times in order to compile Shen Nong Ben Cao Jing will also be taught. Additionally, the basics of how to eat healthfully and live a healthy lifestyle will also be taught in schools, so students may develop these beneficial practices from an early age.





Furthermore, students will also be taught that various extreme emotions may harm the body such as fright damaging the Kidney. Hence, they will be schooled in how to work with their emotions to prevent and address illness.



Finally, field trips to learn more about Chinese medicine, and herb identification classes are also planned for the student curriculum.





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Reference 1: <https://mp.weixin.qq.com/s/zfaOFO37vdeBQ-pkGhO7sw>  
Reference 2: [https://mp.weixin.qq.com/s/jhg\\_\\_HUfTtkthcHML.gEJWw](https://mp.weixin.qq.com/s/jhg__HUfTtkthcHML.gEJWw)  
Reference 3: <https://mp.weixin.qq.com/s/orCfI9CnVLEJjkUF7mfcQ>