



## Editorial

# Reflections on the potential role of acupuncture and Chinese herbal medicine in the treatment of Covid-19 and subsequent health problems



Stephen Birch <sup>a,\*</sup>, Terje Alraek <sup>a,b</sup>, Sascha Gröbe <sup>c</sup>

<sup>a</sup> School of Health Sciences, Kristiania University College, Oslo, Norway

<sup>b</sup> Department of Community Medicine, Faculty of Medicine, National Research Center in Complementary and Alternative Medicine, UiT The Arctic University of Norway, Tromsø, Norway

<sup>c</sup> General practitioner, Berlin, Germany

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In these difficult times as the world continues to struggle with the Covid-19 pandemic, it is quite amazing that Traditional Chinese Medicine (TCM) practitioners inside China were able to treat Covid-19 infected patients as part of China's response to Covid-19.<sup>1</sup> Many groups are looking for successful treatments for Covid-19 and its sequelae such as Long Covid-19. Publications about the potential role of acupuncture and Chinese TCM herbal medicine have been emerging since early 2020. While this is encouraging, there are a number of issues that we feel researchers and authors need to attend to if acupuncture, Chinese TCM herbal medicine are to gain recognition in treatment of Covid-19 and Long Covid-19.

### 1. What is Covid-19 and what are the sequelae of Covid-19?

As we are seeing, Covid-19, like other viruses, can mutate especially in periods of high transmission. Different variants can trigger different degrees of infection, symptoms, transmission rates and with different susceptibilities. We are seeing emergent evidence that treatment for one variant does not necessarily work on another – look especially at the recent outbreak related to the delta variant in Israel where vaccination rates were very high. The Covid-19 virus has been documented to cause over 60 different symptoms across 10 different bodily systems,<sup>2</sup> affecting tissues

such as pulmonary, renal, intestinal, vascular and neural,<sup>3-5</sup> producing a wide range of different short and long terms problems. It can also cause immune system dysregulation, trigger abnormal inflammatory processes.<sup>4, 6</sup> While the precise details of Covid-19 infection are becoming clearer, it is an evolving field so it is too early to say how long problems can persist, the range of potential complications, and susceptibilities etc. Should a successful treatment be developed for one variant, one cannot generalize without further research that it can work for the next variant. Publications about treatment can become outdated quickly should a new variant become dominant in the population.

Evidence is emerging that Covid-19 infection is resulting in high rates of what has, since May 2020, been called 'Long Covid-19.' Studies and reports show that Long Covid-19 can show in different Covid-19 infected patient samples across different timelines: 10–20% in some UK samples,<sup>7</sup> 34% in a study in Germany,<sup>8</sup> over 1/3 of Covid-19 infected patients in the UK,<sup>9</sup> and as high as 50% in a study in Norway.<sup>10</sup> The 50% findings are at 7 months after infection in non-hospitalized patients in Norway.<sup>10</sup> One commentary in the UK suggests "a reported two million patients in the UK will require varying degrees of care for the long and lasting effects of COVID-19 known as long COVID".<sup>11</sup> These high percentages of post-covid infection long-term problems are likely to be a very large burden for society in most countries. Symptoms of Long Covid-19 include: fatigue, concentration problems, memory problems, headache, shortness of breath, loss of smell, unusual muscle

\* Corresponding author: W.G. Plein 330, 1054 G, Amsterdam, the Netherlands.

E-mail address: [sjbirch@gmail.com](mailto:sjbirch@gmail.com) (S. Birch).

pains, persistent cough, sore throat, fever, chest pain, abdominal pain.<sup>2, 12-14</sup> Many of these symptoms alone can be difficult to treat, in combination treatment becomes even more problematic.

The treatment of acute Covid-19 infection involves isolation and home care with monitoring for mild symptoms, visits to doctor offices and hospitals for more severe symptoms, and hospitalization with more intensive care measures for severe, life-threatening symptoms. However the treatment of Long Covid-19 is just in its starting phase. At present modern medicine does not have much treatment to offer for Long Covid-19 beyond early-stage approaches such as advice, self-management and referral strategies.<sup>15</sup> Recommendations for treatment are gradually evolving, but are still in early-stage of development.<sup>12, 16</sup> Since Long Covid-19 remains an evolving condition the dimensions of which are being mapped out we find guidance from the US Centers for Disease Control such as: "Patients with post-COVID conditions may share some of the symptoms that occur in patients who experience [myalgic encephalomyelitis/chronic fatigue syndrome](#), [fibromyalgia](#), [post-treatment Lyme disease syndrome](#), [dysautonomia](#), and [mast cell activation syndrome](#). Symptom management approaches that have been helpful for these disorders may also benefit some patients with post-COVID conditions (e.g., activity management (pacing) for [post-exertional malaise](#))"<sup>17</sup> these suggestions are being explored for helpfulness.

## 2. Chinese TCM herbal medicine and acupuncture in treatment of Covid-19 patients. WHO is the audience?

### a) Treatment of actively infected Covid-19 patients.

Acupuncture and Chinese (TCM) herbal medicine are practiced mostly by non-physicians outside of China. As the pandemic started there were often shortages of proper protective equipment and non-essential health care workers were either prohibited from all practice for extended periods of time or were instructed to NOT allow Covid-19 infected patients into their clinics, using some form of screening for early-stage viral infection symptoms. Patients with viral infection symptoms like the common cold, flu without Covid-19 positive tests and Covid-19 positive patients are still told to stay home. Even general practitioner clinics and some hospitals restrict or prohibit walk in appointments without careful screening. Thus outside China, acupuncture or TCM herbal medicine therapists in most if not almost all countries did not see actively infected Covid-19 patients. They also did not want to treat them since they usually lacked sufficient protective equipment. This is important because potential treatments for actively infected Covid-19 patients lie in the hands of qualified primary care providers when they have proper protective equipment. Most if not almost all TCM herbal medical practitioners outside of China are not allowed to treat or do not want to treat active Covid-19 infected patients, thus advising them about TCM herbal treatments is potentially not useful. Instead, TCM herbal medical treatments need to convince primary care professionals working in appropriate settings (special clinics, hospitals) that TCM herbal medical treatment may have a useful potential in the treatment of active Covid-19 infection. Convincing this group of health care providers will require high quality properly developed clinically relevant evidence. Additionally, this group of health professionals is unlikely to have been trained in TCM diagnosis and herbal prescribing, thus there is a potential mismatching of treatment methods and their qualifications when sufficiently convincing data has been presented to encourage use of TCM herbal medicines for Covid-19 infection.

### b) Treatment of post-infection – 'Long Covid-19' patients.

Given the lack of access to actively infected Covid-19 patients it is highly likely that acupuncture and TCM herbal medicine prac-

tioners will be more focused on treatment of Long Covid-19 patients. Since the pandemic began increasing numbers of acupuncturists and TCM herbal medical practitioners have seen patients that have had Covid-19 infection. Experiences are emerging about the uses of acupuncture and TCM herbal medicine in Long Covid-19 patients. But with the relative newness of the problem, its evolving nature and descriptions, limited number of cases treating Long Covid-19, on-off closure of practices or restrictions of access to health care professionals during Covid-19 infection peaks, conventional medicine has not had time to figure out effective treatments or develop reasonable clinical practice guidelines. Similarly the evidence database for acupuncture and TCM herbal medicine practitioners is even more limited.<sup>18</sup> Reporting definitive treatment strategies currently is premature.

## 3. Chinese TCM herbal medicine and acupuncture: development and presentation of convincing scientific evidence

### a) Active Covid-19 infection and convincing mainstream health professionals

For Chinese (TCM) herbal medicine to be convincing to mainstream health care providers outside of China it will be necessary to document basic data before clinical research and applications will be accepted. Since herbal medicine involves ingestion of substances, it will need to satisfy the same steps that pharmaceutical substances need to work through:

By what pathways do the herbs work? Do these pathways influence any of the documented pathological mechanisms of Covid-19? If so, which chemical derivatives, which pathways, how and with what effects? Are the herb/derivatives acting as 'anti-viral' agents? Do the herb/derivatives provide protective effects for tissues that the virus targets? Do the herb/derivatives speed up recovery from infection? Do the herb/derivatives reduce severity of symptoms during infection or stop development of certain symptoms during infection? Are the herbal substances or derivative chemicals safe? What evidence is there for safety problems, in what populations? Are there any precautions for use of the herb(s) in Covid-19 infected patients or subpopulations of Covid-19 infected patients or when taking certain medications? Is there any data for early stage clinical applications of relevant herbal combinations/chemical extracts? Have high quality prospective controlled clinical trials been conducted? For Chinese TCM herbal medical treatments, the sequencing and presentation of these data will be pivotal to gain acceptance in conventional healthcare settings outside China. Mechanisms based studies show promise as documentation of how certain herbal products can affect Covid-19,<sup>19</sup> but further research is needed. Clinical trial evidence to date is quite limited<sup>20</sup> but promising.<sup>1, 21, 22</sup>

These requirements are different than those for acupuncture where despite problems with mismatching of research requirements with the questionable use of sham acupuncture trials<sup>23</sup> and imprecise descriptions of what is acupuncture and what treatment methods were used in a trial,<sup>24</sup> a general approach to evidence development has been in use for acupuncture for some time.<sup>25</sup> Research in Chinese TCM herbal medicine will struggle with different types of problems to develop evidence that can be convincing for mainstream practitioners and institutions before they can recommend or adopt it.

Care also needs to be taken in the presentation and conclusions of research. Some authors make statements such as 'TCM works' for treatment of Covid-19.<sup>1, 21, 22</sup> This kind of statement is imprecise and unconvincing. Imprecise because TCM is a huge field of study and practice; one cannot test one or a handful of herbal formulae and then conclude that TCM (the whole field) works, this is like saying because a certain pharmaceutical substance did

not work in a clinical trial that all of Western medicine does not work. Unconvincing for the last reason and also because TCM, like acupuncture, as a foreign medicine outside of China, is under the microscope and often held against a higher critical standard. Any misstep in data sequencing or presentation, statements of conclusion will reduce acceptance. Similarly, arguing that since the system of TCM is always able to make a diagnosis in Covid-19 patients and derivatively that TCM is thus a successful therapy is also not helpful. The lessons of history contradict such interpretations. It is true that in acupuncture and Chinese TCM herbal medicine practice once we have made a diagnosis we always have a treatment associated with it<sup>26, 27</sup> but it is no guarantee of success. Why did Zhang Zhong Jing develop the Shanghan theory and model of practice? Why did the authors of the Wen Bing theory develop this model of practice? It was the failure of pre-existing models to treat a new epidemic that was the inspiration. The fact of having a diagnosis and treatment for every patient with a system of practice is no guarantee that it works, as evidenced by these examples. Authors must be much more cautious about what they state if they are to remain convincing. b) Long Covid-19 is increasingly being investigated and targeted in scientific studies. As more health providers across the whole spectrum of conventional and Complementary medicine encounter more Long Covid-19 cases, the need for helpful advice on how to proceed with treatment is rapidly increasing. Acupuncture, like other therapies is being sought in treatment of long Covid-19. The British Acupuncture Council has done a good job shying away from making unsupported claims and offers good examples of accurately informing patients,<sup>28</sup> they do not cite studies as there are few to cite.

Also it is necessary to be aware that Chinese TCM herbal medicine is practiced much less outside China than inside China. Since only physicians in Japan are allowed to prescribe herbal medicine, only a very small percentage of licensed acupuncturists are legally allowed to practice herbal medicine.<sup>27, 29</sup> Acupuncture schools in Europe teach TCM herbal medicine only as a postgraduate course or as an elective course within the school curriculum. In Europe numbers of acupuncturists that practice herbal medicine vary by country but remain relatively low.<sup>29, 30</sup> For the development of evidence to treat Long Covid-19 using traditional therapies like acupuncture or TCM herbal medicine to have greater practical value and inform medical practice in those countries it will probably be better to focus on acupuncture treatments. Development of evidence for acupuncture will be easier in part because of already developed pathways for that,<sup>25</sup> and in part because acupuncture is already accepted and documented. Acupuncture is practiced without the need of pre-clinical studies to document components, pathways of action and safety: acupuncture is already accepted to be a safe therapy<sup>31</sup> and there are many established pathways of action.<sup>32-34</sup> It is already accepted by many to be an effective therapy for a growing number of conditions<sup>31, 35, 36</sup> and recommended for many problems<sup>35</sup> and for the chronic fatigue<sup>37, 38</sup> and pain<sup>38-41</sup> of myalgic encephalitis, and for chronic headaches,<sup>36, 42, 43</sup> common symptoms of Long Covid-19. Because of this history and accepted usage we feel that development of evidence can start along two pathways. First, careful documentation of clinical treatments and effects – case history reporting, clinical audit, qualitative questionnaires, surveys, expert group discussions and so on. Studies to collect these data will need to precede randomized clinical trials of acupuncture treatments for Long Covid-19. As the pathways of the pathogenesis of Long Covid-19 become clearer, literature reviews of the physiology of acupuncture and/or laboratory studies will also be needed to examine whether or how acupuncture can influence the documented patho-mechanisms of Long Covid-19. Promising evidence on the last area can be found, but remains hypothetical.<sup>44</sup> Looking broadly at the sequencing of studies for acupuncture they describe an almost exact opposite sequence than those that

TCM herbal medicine will need. Developing and presenting convincing evidence for uses of acupuncture and Chinese TCM herbal medicine will be quite different with different needs. Care should be taken to not over-state evidence, make unsupported claims and to match and meet the research needs of each therapy if it is to be convincing.

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