

Dear friends, family, and patients,

My intention here is to synthesize as much information about the current outbreak as possible, and make it accessible without oversimplifying what is truly, a complex situation. If you are interested in reading this, I encourage you to make time to read through the whole thing. Look up words or ideas you aren't familiar with. Ask questions. For those of you who want to follow up on sources, I'll cite my way throughout this discussion. There is so much information out there, much of it is good and helpful. HOWEVER, it becomes detrimental when we take it out of context. Sitting down with a few sources you trust and reading thoroughly, will save you time and turmoil in the long run. It could also be essential in how you handle this outbreak should it come your direction.

I will include some important aspects of Chinese Medicine approach and treatment. If you know me, you know that I get no thrills from selling and that is not my intention. I believe Chinese Herbal Medicine is of great assistance in a collaborative approach to health during this time. You'll see that much of Chinese Medicines history was focused on overcoming epidemic disease. Also that the results so far of using specific herbal medicines are promising. And that research has been happening in relation to herbs and coronavirus since at least the last SARS coronavirus outbreak.

A special thanks to Dr. John Chen, a legend in the world of herbal medicine research, whose sources and analysis I use extensively in this work. I want to digest some of his analysis and pass it on. I think it is more effective to do that than to try and come to my own conclusions when someone more knowledgeable is available. My job is to digest it and make it useful to my community.

I also want to note that despite my and everyone's best efforts, some of this information will turn out to be wrong. I know this because it is one of the constants in history. That inevitably, new information arises that disproves what we previously thought. Please understand that, and be willing to revise what I tell you and what you have learned elsewhere. If you find something new or find that something I am saying is inaccurate, let me know and I can inform others. I experienced this recently when I was recommending against using Echinacea based on a concept I had, then found new information that disproved what I was thinking¹. Regardless, I believe that we are in the ballpark on a lot of this. And that being so, the understanding we have now is useful. I also want to say that information like this, is collaborative. You will integrate this information with what you know and believe. And please, if you have other information that you think is important, research, experience, or a different interpretation of the information I am using, please communicate that as well. I want what I say to be part of a larger conversation.

I'm not going to cover social distancing, the information is clear already. I have nothing to add other than the importance of us all being on the same team with it.

COVID-19 Virus

I do want to talk briefly about the virus itself.

There are seven coronaviruses that we know of that affect humans². Some you are already familiar with like SARS and MERS. These two have dramatically higher mortality rates than the current virus (20-35% mortality rate), yet neither killed as many people as Covid-19 has already³. I will add on a positive note that there appears to be limited mutation happening amongst different samples of Covid-19, so far, which is good for potential vaccine production, et.c. ⁴This is because of the way it spreads. That is a key point to remember. We need to look at more than one data point. It is not just about mortality rate. For a short list, I would add, how effectively it spreads and long term disability for those who survive a severe case⁵.

I think the basic information about viral spread is also relatively uniform and accurate as long as it is coming from a decent source. You may know that I've taken some interest in public health and public health decision making as it was a part of my psychology and medical degrees, my work with people with disabilities, as a board member for Postvention Alliance, and in providing testimony in state legislature. What I can say is that these isolation measures we are experiencing are not punitive. When a virus spreads this fast, it is one of the better options that we have given our lack of preparedness and testing. I will also be frank with you on this, that the impact of a disease goes far beyond the specifics of the organism itself. We have experienced a variety of disastrous diseases even just in the last 100 years. We have to look at how society is arranged, healthcare and otherwise. And we would be fools not to be taking notes right now. Job insecurity, lack of PTO, stresses of working paycheck to paycheck, and a medical system that has been shaped by profits, are just as much a part of the impact of coronavirus as its ability to bind to the ACEII receptor in the alveoli. These blanket measures to limit contact, I believe are the options we have right now. Am I bitter that it is more devastating to local small business than to Amazon and Walmart? Absolutely. And I hope we take those lessons and influence our policy makers' priorities moving forward.

Hand Washing

About hand washing and sanitizing. Let's not over complicate this. Washing is still the best way of removing the virus. I'm talking regular soap. Soap breaks surface tension and allows us to physically remove the virus from a surface like our hands. Anti-bacterials don't work because of just that. They are anti-bacterial, not anti viral. In the meantime they contribute to bacterial resistance of all sorts of other pathogens. Not recommended. It is still worth recommending things like alcohol based hand sanitizer when you can't wash your hands or clean surfaces.⁶ Its a dangerous virus but its not a particularly hard virus to break down. This is what we call an enveloped RNA virus⁷. It means it doesn't present any particularly difficult challenge in breaking it down. Over 60% ethyl alcohol or 70% isopropyl alcohol is worth using and cleaning your phone with⁸.

Virus Severity

I also want to mention that our consideration of the severity of this disease needs to look beyond mortality rate. People who become more severely ill from the virus, usually needing hospitalization, will likely leave with some sort of lung damage at least. If you have heard the term “cytokine storm” that is in part what we are talking about⁹. This virus tends to start in the upper respiratory tract. It is also there, where we have the best opportunity to expel it¹⁰. Once it is deep in the lungs, there are a variety of processes which happen that cause complications. This is really what we need to avoid, because the virus and the possible reaction from our immune system can damage the capacity of our lungs long term, causing pulmonary fibrosis, where functional tissue is in effect replaced with non functional scar tissue¹¹. It is this outcome that we think leads to the other organ failures that the most severe cases succumb to. To put it simply, not enough oxygen and the other organs are starved. The heart requires a consistent supply of oxygen, people with cardiac diseases already have a heart under stress, decrease their supply of oxygen and they are at even greater risk¹². We don't know how common these severe outcomes will be for those who survive intense manifestations of the virus, we just know that it can happen from the biopsies that have been performed so far¹³. Let's keep this in mind when we consider how severe this is for our community.

I said all that to give a bit more context to what we are hearing already and validate the gravity of the situation. **But remember, most people wont experience the disease as intense or life threatening.** For all we know, some of us reading this have already had Covid-19. I was sick in February with something that could possibly have been this, before we were aware of cases in the U.S. We just don't know.

ACTION STEPS

Now, as Shaun King says, lets get to the action steps.

1. Understand your possible risks and prepare in a way specific to you

It appears that many of the most severe cases are people with existing lymphocytopenia and thrombocytopenia (low levels of lymphocytes and platelets in the blood)¹⁴. This increased risk likely has to do with how rapidly your body can go to work fighting it off before it goes deep into the lungs. Yes, part of the negative side effects of this virus can be your immune system over reacting but that is not what we are talking about here. The message is that our immune systems need to be robust and healthy. And the immune system is not just one thing, like it sounds. It is a term that describes a multitude of elements, with a multitude of functions, which are effected by a multitude of factors. That is why, the advice we are hearing about everything from good sleep to limiting sugar intake, is good advice. If you don't want to get caught up in the details, just remember that most of this is common sense. If you have an existing condition like diabetes, manage it especially well right now. If you cope with stress by drinking, use these motivating times to ask for help and see if you can find another way to cope. Basically try to improve your life in ways you'd thank yourself for regardless. Maybe you have extra time on your hands, this is that time to see how much you can enjoy the simple things in life. Contentment is good medicine. Really what we have to think about is taking

stressors off the body so it can do its job well. A balanced simple diet to provide the building blocks for everything that happens in our body and less roadblocks in its way.

2. Consider taking preventative supplements

Here are some ideas for supplements to take preventatively.

Vitamin C: 1-3 grams a day

Zinc: 15-30 mg a day, with food! And if you take this long term, 3 months or more, adding 2 mg of copper is a good idea

Vitamin D: 5,000 IU is a good place to start. If you know you have enough Vit. D because of a blood test, don't supplement, it is not good to have too much.¹⁵

Huang Qi (Astragalus): is a Chinese herb that is also known to many western herbalists. If you are a researcher, check out its effects on T and B immune cells, much to do with the polysaccharides it contains. It may even assist with our bodies ability to recognize and create immunity to this virus. ¹⁶

** A side note on immunity, we aren't sure if getting the virus once will prevent you from getting it in the future. The results so far are mixed. We will likely know more soon.¹⁷

Echinacea: I've gone back and forth with this one the last week. As I've come to understand the virus better, my call is that this is a good idea. Mostly, because of one paper I found that describes its ability to heighten certain aspects of the immune system and down regulate a possible cytokine storm.¹⁸ The paper even relates its usage to the previous covid outbreak that most of us know as SARS (both the previous and current outbreak are technically SARS viruses which stands for Severe Acute Respiratory Syndrome). That virus is at least 80% genetically similar to the current outbreak. That makes it a decent but not a perfect model. So if you have some echinacea, it seems like it is a good idea preventatively. Just use it in moderation.

Black Elderberry: I talked to a friend recently about using Elderberry for prevention and lung support. I've haven't looked into it deeply yet but so far it looks like it could be helpful. I'll let you know if I hear more. ¹⁹

3. Understand your treatment

I want to take a moment to also explain some of the treatments with Chinese medicine even though the details of the treatments won't be familiar to most of you.

First, a quick historical note. China has recorded somewhere around 320 epidemics in the last 2,000 years²⁰. Much of the medical models that have come out of China in that time have been guides to treating this kind of illness. Zhang Zhong Jing a Chinese physician whose works have remained indispensable, came into mass fame for his determination of treatment for epidemic illness. He lived about 1800 years ago. Ye Gui is another great contributor to our knowledge of treatment for epidemic disease, he was practicing medicine in the 17 and 18th

century. Many of the herbs used by millions of people over the last few thousand years can now be lab tested. Another note on Chinese Medicine, it is not a direct interface between efficacy of Chinese Medicine and its demonstrated efficacy in double blind studies. In many ways Chinese Medicine is too individualized for that, it makes it hard to have a proper control group. It is also very difficult to pinpoint a single compound because the idea of using formulas is to accomplish a goal by coming at it from many directions, no one member of the team does all the work. Regardless of its laboratory efficacy, it has been standard procedure in Wuhan and other places in China to use these formulas for Covid-19 because the outcomes are quite promising.²¹ So here we go.

Let's break down the stages of treatment. Different stages and individual manifestations of the disease are diagnosed and treated differently.

Preventative treatment:

We want to look at a persons underlying constitution, treat that, and combine it with an approach that confronts the threat. In this case that means herbs that are commonly used for immunity in this kind of epidemics. For example, someone who struggles with a condition where they produce excess mucous would be treated with herbs that address that, in this way making their lungs healthier and more resilient to disease. Another person might struggle with extreme anxiety, understanding and treating that pattern will mean they stay in the calm state that promotes immunity. Both of these people would also get herbs like *Huang qi* and *Fang Feng*, typical herbs for preventing this type of illness and boosting immunity. *Huang Qi* or *Astragalus*, is one of the herbs we talked about earlier.

*****Caution!!**

I'm going to begin talking about herbs that should not be used without professional help. Herbs are not harmless, some are extremely potent and/or toxic if used improperly. When dealing with more severe disease is when we often see these stronger herbs being used. That is the case with all medicine, herbal, pharmaceutical, surgical, et.c. There is an article on the NIH website right now warning vaguely that some of the herbal teas and other medicines being talked about right now have no demonstrated efficacy and could be dangerous.²² I agree, be cautious and be informed. However, I won't be told that Chinese herbs should not be used IF they have been showing clinical efficacy, limited harm, and no better alternative.

Early stage of Covid-19:

Cough, respiratory symptoms, fever, et.c.

Everyone reacts differently but the general idea is that the body is beginning to fight the virus. The epicenter is in the upper parts of the airway. Chinese medicine deals with this by looking at the symptoms, noticing different observable signs, and determining the pattern which is being displayed. For example, someone that is expressing a high fever is obviously reacting to the virus differently than someone with a low fever. They must be treated accordingly. One of the main tenants of treatment is likely to be to cause a flush, diaphoresis. One way of explaining the idea here is that you need to increase blood flow to the surface membranes, including the throat. Basically expanding the capacity for blood to carry immune cells to the area of infection. In addition, also using herbs which inhibit the virus itself.

Later stage:

Should the virus cause more issues and go deeper into the lungs, the body must be treated accordingly. Stronger anti-viral herbs will be used. Some of these would not be used earlier because like we mentioned, strong medicine is harsher on the body. But it is now important to assist the body with more force both in boosting the body's own energy and attacking the virus itself. Herbs used here should definitely not be self prescribed. *At this point you should also be in clear communication with a hospital physician and know at what point you need to make the trip.*

Severe Pneumonia:

There is treatment for this illness in severe stages with Chinese herbs but really you need to be in the hospital with access to life support and other biomedical treatments. Should we get to a point where there is no medical capacity in hospitals and you or someone you know needs help, **call me.**

Recovery:

An illness like this causes damage. For most of us, our bodies should be able to recover and rebuild. However, there are things we can do to help rebuild well. Irritation or cellular damage might cause a lingering discomfort, cough, shortness of breath. Soothing herbs and tonifying herbs that give the body the building blocks it needs to rebuild are called for at this stage.

4. Do your research

Now after all I said about Chinese herbs not always interfacing well with laboratory research, here's some lab research. I find this very exciting and useful in guiding our choices. If you're unfamiliar with medical research, feel free to ask for help! I reference many studies throughout this letter and include citations and links at the end.

Wu Bei Zi (Galla Chinensis)

Has shown a capacity to bind with the spike proteins on the surface of SARS viruses and inhibit it from entering cells.²³

Yu Xing Cao (Herba Houttuyniae)

Demonstrates inhibitory effect on SARS and promotes proliferation of lymphocytes. ²⁴

Ban Lan Gen (Radix Isatidis)

Inhibition of SARS enzyme activity. This shows unique promise in countering the "cytokine storm" issue presented by the virus. ²⁵

Jin Yin Hua (Lonicerae Japonicae)

Broad ranging anti-viral activity.²⁶

Obviously, doctors of Chinese medicine used these herbs hundreds of years before we were even able to see a virus under a microscope. Which helps demonstrate that their usefulness was established clinically, not just in a lab. Let me also remind you that these are strong herbs, they need to be prescribed by someone with the necessary knowledge to do so and in proper combination.

I bring them up to spur the research that some of you might do on your own, and hopefully be in communication about what you find, and so that should need arise you have some better sense of the range of options available to you.

I think a lot of this information is very encouraging and useful, or else I wouldn't be so bold in sharing it. Am I biased towards Chinese herbalism? Absolutely. I believe that is the nature of having a specialty. If an effective vaccine emerges in a year or two²⁷, I will be celebrating with everyone else. But we work with what is available and what we know. There is a variety of research happening in other arenas too. A few antimalarials, antivirals, steroids, et.c. are being rapidly researched and we need to be looking at those. I imagine my colleagues in functional medicine and naturopathy similarly are finding novel ideas. I look forward to learning more in the near future and sharing what I find.

And again I want to thank Dr. John Chen, I am staying pretty close to his research and recommendations while I also read a variety of other sources.

CLOSING THOUGHTS

Some closing thoughts. I want to reiterate that sitting down and going into depth with some of this information can be helpful. I'm not suggesting everyone has to become research literate or study pathophysiology. However, remember that we base many of our opinions on research that is being interpreted and manipulated by a number of parties. And research is not perfect, it contradicts itself all the time. Sometimes, like in medicine, the proof is in the practicality of it, not necessarily the best lab findings. The situation is infinitely complex. It is useful for us to establish baselines and facts, but it is not useful to see it as black and white. For us to understand the subtlety, we have to understand some of the depth. I think Chinese medicine is going to be really helpful in times to come. That doesn't mean it will be the most helpful for everyone. I am sure there is other great information and treatment out there just as good or better than what I know of. It is subtle and there are no right answers, just finding what is helpful for you and your community.

My passion is medicine, your passion may be something else. Find your way to be helpful through the things you are passionate about. Again, this is a medical situation but the solutions are communal. And I can not stress enough that the simple things, eating simple, relaxing, being empathetic for yourself and those around you, is fundamental. If you are choosing what to put your time and resources into, I recommend the basics.

And on the note of what we can do. One of the tendencies when we are subject to something that is out of our control, is to over control what we can. For some people that might be washing their hands every few minutes, staying exactly six feet away from anybody, or taking every supplement that has any hope of helping. Each of us will judge what actions we deem more or less important. What I encourage us to do, is honor the actions of the people around us and be on the same team. Look behind the scenes and ask why. You might notice people trying to do their part on the behalf of everyone, and acting out of fear for their own safety. We can all connect with those feelings even if the actions look strange to us.

Alyssa went out for some groceries and a few supplies yesterday and came back beaming. Everyone acting with consideration towards each other, and those who aren't, are probably expressing fear they don't know how to deal with otherwise. I know it can be rough at the grocery store, but it's also kind of magical out there, everyone working together in a slowed down world. We've been watching a lot of Mr. Rogers Neighborhood. The lessons in that show, the ones you would teach your children, are the ones that grown ups need right now.

Finally, this is not a happy time, and we don't need to pretend it is. Something we can learn from Mr Rogers or nature-based medical systems, is that being present with what you are feeling, is the most efficient way to move on. If you are experiencing loss, say of a business you've put so much into, you need the room to grieve. If you are afraid, know that you are not alone. And let's collaborate, it feels good to be a part of a team, even better when your team is the whole world.

In Solidarity,

A handwritten signature in black ink, appearing to read "Jeffrey Turre". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Dr. Jeffrey Turre L.Ac.

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