Polycultured Antiviral Blend Research Survey

First Year Review of One Herbal Medicine Formula for SARS-COV-2

04.21.2021

INTRODUCTION

The COVID-19 Global Pandemic has impacted the lives of humans across the globe. Coronaviruses are a group of related RNA viruses, of which there are hundreds, possibly thousands of different kinds. Of these, there are three kinds which are far more serious than the rest, known as SARS-COV (2002), MERS-COV (2012), and SARS-COV-2 (2019). Both SARS-COV and MERS-COV spread to differing degrees, but neither became a global pandemic. In March of 2020, the World Health Organization declared a global pandemic in regards to SARS-COV-2, otherwise known as COVID-19.

There are a great many differences between SARS-COV-2 and influenza, which was responsible for the last global pandemic in 1918. One of these aspects is that SARS-COV-2 has a much slower mutation rate than influenza, which mutates at a rate about 4 times as fast. SARS-COV-2 also appears to be more aggressive than influenza in its damage to the human body during infection. SARS-COV-2 uses the nose, mouth, and lungs as a point of entry, but does not only cause respiratory disease. Once inside the body, the virus attaches to ACE-2 receptors, which are found in several different areas. SARS-COV-2 may attack the lungs, heart, brain, kidneys, gastrointestinal system, reproductive system, skin, and the vascular cells of the circulatory system. Blood clotting is of particular significance. SARS-COV-2 also attaches to olfactory neurons in the nose at a receptor called CD147, where it is more easily able to access the brain, brainstem, and spine.

After infection from SARS-COV-2, cytokines are strongly upregulated. Cytokines are a broad category of proteins important for cell signaling. They are essential for immune system function by helping us respond to attacks on or in our body. However, they are also inflammatory molecules. A cytokine storm occurs when the inflammatory response is no longer contained to the original host cells but becomes a full body attack. During a SARS-COV-2 infection, cytokines set off a cascade of inflammation, including immune cell migration, infiltration, and accumulation in the lungs. In particular these cytokines are known to rise during coronavirus infections: IFN-γ, CSCL10, IL-1β, TNF-α, and IL-6, as well as RANTES, MCP-1, and IL-8. PGE2 and TGF-β also rise.

Some of those who recover from the initial infection have long term effects, which has now been termed post-acute sequelae of SARS-COV-2 infection. The long term effects are numerous, including serious neurological, musculoskeletal, pulmonary, and endocrine disruption. There is also the possibility that the virus may lay dormant before reemerging later where a relapse occurs.

Herbal antivirals have a plethora of research behind them. Particularly, plants and fungi are able to counteract the actions of certain pathogens or inhibit the infections or inflammation they cause. The herbs chosen for this protocol have broad spectrum antiviral capabilities, though they were chosen for their specific actions on coronaviruses. This includes the modulation (reduction) of the cytokines mentioned above. They were also chosen because of their limited side effects, and the ability to be used by most groups of people, including those pregnant or lactating. In addition, these herbs are relatively easy to acquire or grow, making them more accessible to use. In the following research, we will discuss our findings after approximately 1 year of dispensing the antiviral blend to the public. As the pandemic develops, we will continue to modify our protocols, and this report.

HYPOTHESIS

The herbs chosen for this protocol attempt to reduce the chance of SARS-COV-2 infection during exposure, to treat an active infection from becoming more serious, or to treat post-coronavirus effects.

MATERIALS & METHODS

The antiviral blend is composed of 7 herbs.

1. **Chinese Skullcap Root [scutellaria baicalensis]**
    a. the most studied and the most medicinal of the various skullcap species
    b. a synergist plant and strong antiviral
    c. works through two different mechanisms to increase drug or herb uptake

in the body
d. it's a broad spectrum antiviral, inhibiting viral replication, suppressing viral gene expression, and reduces viral RNA in infected cells
e. protects cell membranes from virus-initiated cytokines
f. reduces the expression of the viral matrix protein gene
g. interferes with viral entry
h. regulates antiviral immunity of the host by modulating cytokine production
i. inhibits viral release from infected cells
j. increases apoptosis in infected cells
k. lowers host cell membrane fluidity stopping viral entry
l. stimulates innate resistance to viral infection
m. is directly virucidal
n. side effects from skullcap are rare, type 1 diabetics or those using pharmaceuticals should exercise caution

2. **Licorice Root [glycyrrhiza glabra]**
    a. potently antiviral and synergist
    b. is non-toxic when used with other herbs and for short time periods (this is why refills of the antiviral blend come without the Licorice included)
    c. it shouldn't be used with estrogenic pharmaceuticals, hypertensive drugs, cardiac glycosides, diuretics, spironolactone, amiloride, corticosteroids, or hydrocortisone.
    d. it's a broad spectrum antiviral, preventing viral replication across a wide range of viruses
    e. inhibits viral growth and uptake
    f. inactivates virus particles
    g. strongly inhibits viral cytokine cascades
    h. lowers lipid bilayer membrane fluidity to stop viral entry
    i. specifically useful for enveloped viruses by inhibiting ability for the virus to fuse with host cells, create pores in host cell membranes and enter them
    j. it's main constituent glycyrrhizin causes the cell membrane to become more rigid to reduce movement of compounds
    k. the amount of glycyrrhizin in human plasma increases if taken with Chinese skullcap
    l. in vitro glycyrrhizin has been studied to be more active against SARS-coronaviruses than ribavirin, 6-azauridine, pyrazofurin, and

mycophenolic acid
m. increases anti-inflammatory IL-10 cytokine

3. **Astragalus Root [astragalus membranaceus]**
    a. contains potent polysaccharides
    b. is non-toxic and has no side effects but may be contraindicated for those with Lyme disease
    c. increases effects of interferon drug treatments
    d. synergistic with licorice in stimulating immune function
    e. is an antiviral, immune potentiator, modulator, and restorative
    f. regulates interferon-gamma and IL-2 levels
    g. enhances function of the lungs, spleen, GI tract, and thymus
    h. used to prevent viral infection and illness
    i. anti-inflammatory

4. **Olive Leaf [olea europaea]**
    a. specific to protecting lung cilia, which coronaviruses target for replication and thereby destroying those cells and their ability to move mucus out of the lungs
    b. protects neural cells and neural mitochondria

5. **Cinnamon Bark [cinnamomum verum]**
    a. blocks attachment to ACE-2 on the surface of lung, lymph, and spleen epithelial cells
    b. is high in procyanidins and lectins

6. **Kudzu Root [pueraria montana]**
    a. inhibits cytokine based inflammation from TNF-a & IL-1b cytokines, alleviating symptoms and preventing viral spread
    b. also inhibits NF-kB, IL-6, and the ERK pathway
    c. protects ACE-2 expression and activity
    d. lowers angiotensin II levels
    e. is an ACE inhibitor, increasing the presence of ACE-2 and protecting the lungs from injury
    f. specific for coronaviruses
    g. protects brain and CNS, neural cells and neural mitochondria

7. **Bidens Pilosa [bidens pilosa]**
    a. specific for healing and protecting mucus membranes including lung cilia
    b. is also antimicrobial and a prostaglandin inhibitor

Other Materials

- Glass Jars
- Glass Measuring Cup
- Glass Tincture Bottles with Glass Eyedropper
- Filtered Water
- 150 Proof Alcohol

PROCEDURE

1. The herbal formula was derived from existing research from SARS-COV.
2. Each herb was infused or decocted separately, depending on its properties. The ratio used was 1 parts herb to 4 parts filtered water.
3. Each herb was allowed to cool before adding in the alcohol at a ratio of 1:1
4. If necessary, the herbs were blended to increase medicinal extraction.
5. The tincture then sat in darkness for a minimum of 2 weeks with some daily disturbance (shaking). The herbs were kept in the menstruum for maximum potency.
6. The herbs were combined into the Polycultured Antiviral Blend. Chinese Skullcap and Licorice comprise the main herbs in the blend with a ratio of 2 parts, and the rest of the herbs at a ratio of 1 part. For example, 1 cup Chinese Skullcap, 1 cup Licorice, ½ cup Kudzu, ½ cup Astragalus, ½ cup Olive Leaf, ½ cup Cinnamon, ½ cup Bidens.
7. The herbs were strained and bottled, and distributed via mail to several hundred users.
8. After 1 year, the users were invited to participate in the Polycultured Antiviral Blend Research Survey, as a way to understand both the effects of the blend as well as possible side effects or contraindications. None of the participants were paid for their participation in the survey, and all information submitted was self reported and independent.
9. The Survey consists of several parts
    a. Personal Information and Demographics
    b. Persons who were never tested for SARS-COV-2
    c. Persons who were tested for SARS-COV-2

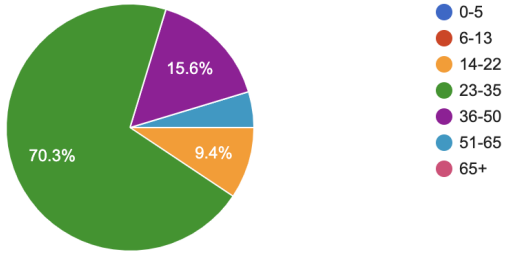
i. Persons who tested negative
ii. Persons who tested positive

d. Reported side effects, general experiences, and anecdotal reports

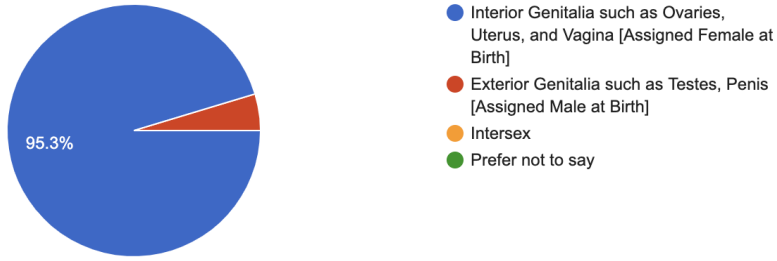
DATA

Personal Information & Demographics - 64 Participants

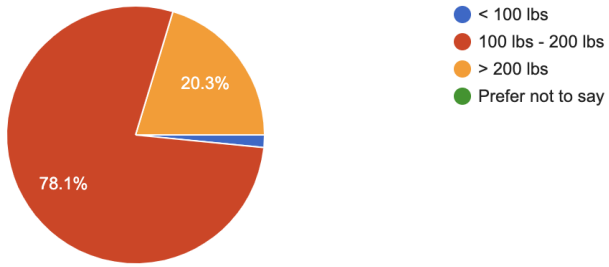
Age Range:



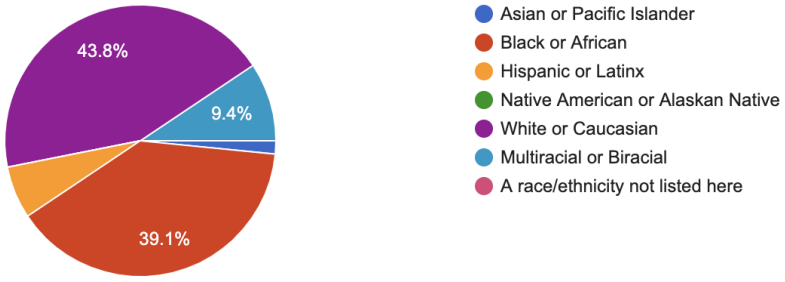
Sex:



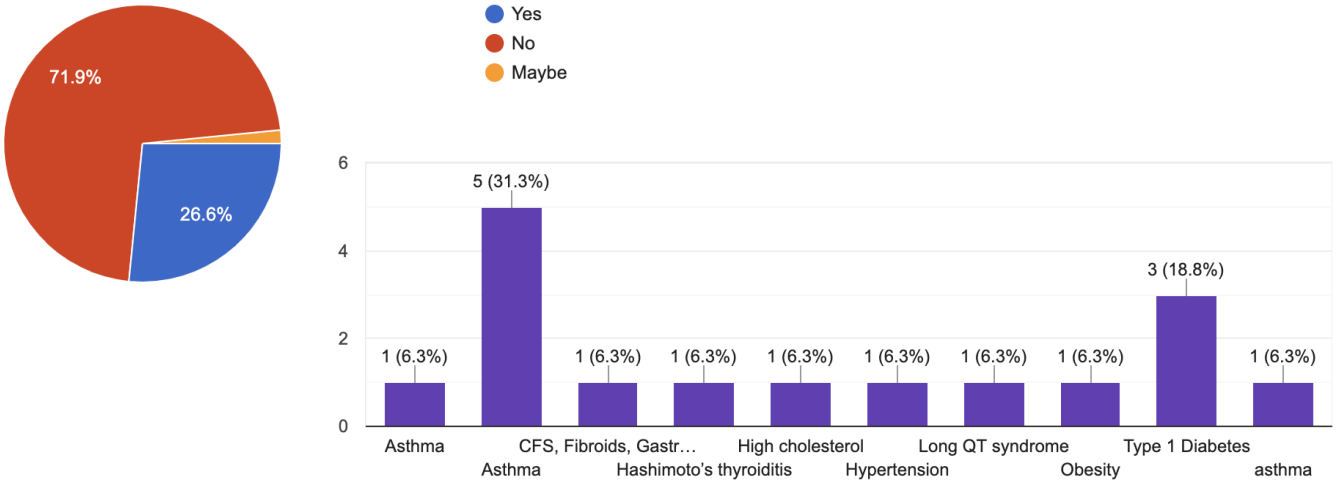
Weight:



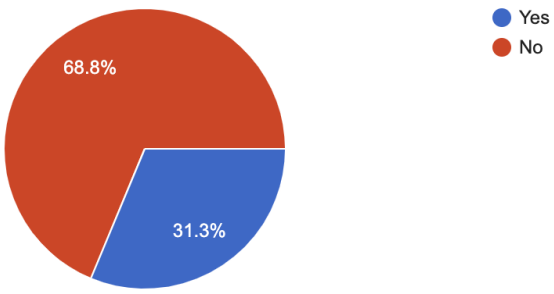
Race or Ethnicity:



Pre-Existing Conditions:

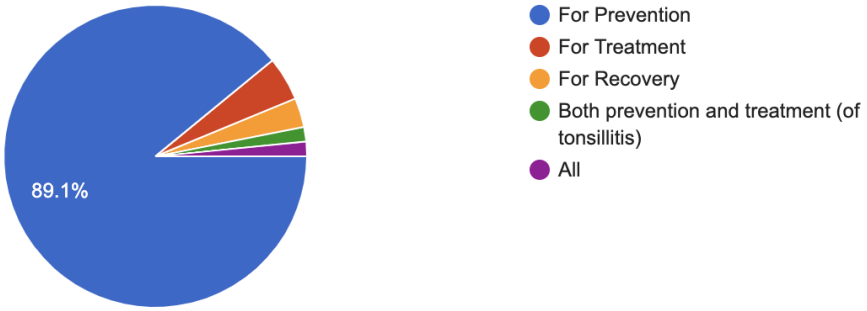


Daily Pharmaceutical Use:

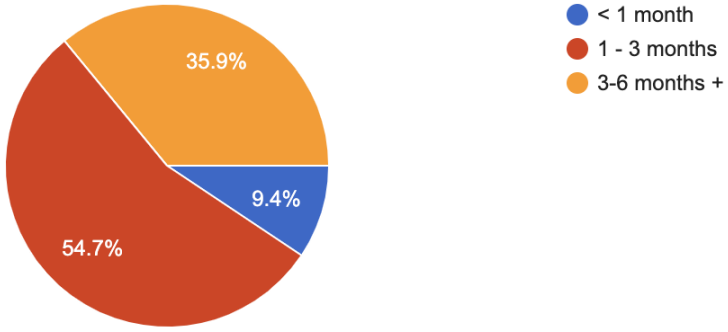


Antiviral Blend Procedural Information - 64 Participants

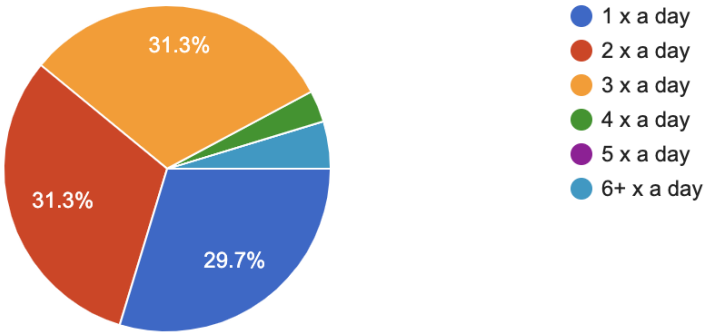
Purpose of Using Antiviral Blend:



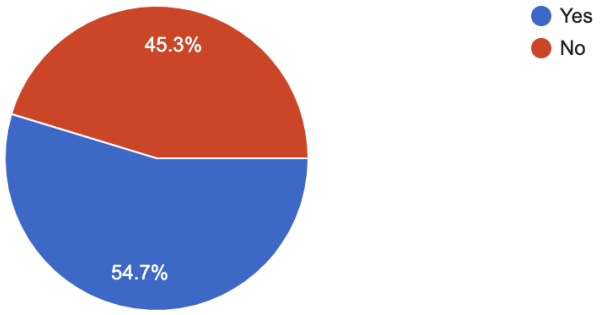
Length of Use:



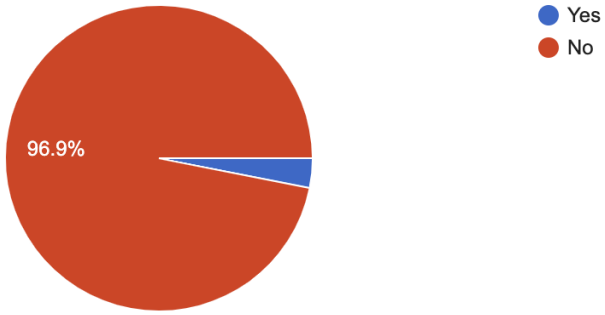
Frequency of Use:



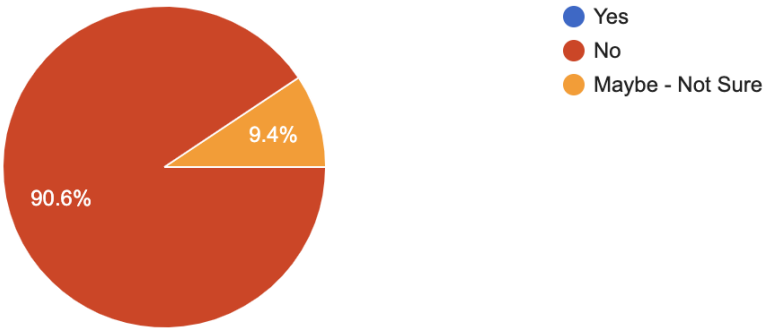
Other Herbal Medicine Use:



Pregnant or Breastfeeding:



Side Effects:

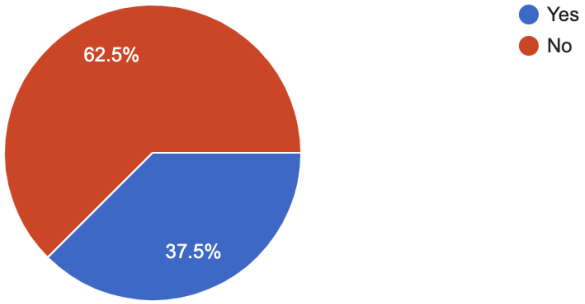


"While also taking the mushroom blend I noticed an increase in my **ability to focus. Overall brain functions improved. Overall general mood improved.** Also every morning I took a tincture (switch from mushroom to antiviral & reishi) I noticed that I would **cough up mucus very easily** compared to when I didn't I could feel the mucus stuck in my chest."

"I have had a few times when taking 3x in a day because someone in my house *might* have been exposed, **feeling slightly flushed.** But that could literally be from almost anything so..."

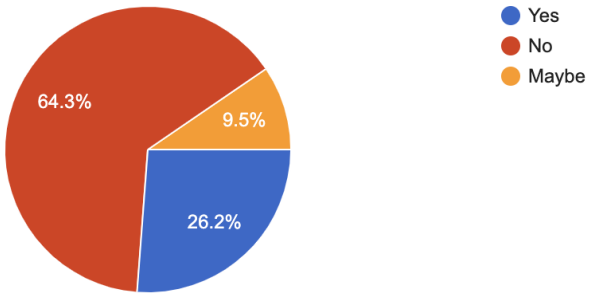
"i stopped taking it because i got anxious that maybe i was over-using it and making my covid anxiety worse, if i experienced any side effects it was just sort of **a general sense that my body wasn't Right, nothing specific**"

Tested for SARS-COV-2:

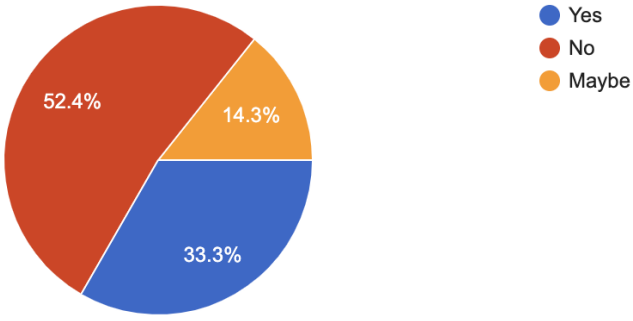


Persons Who Were Never Tested for SARS-COV-2 - 42 of 64 Participants

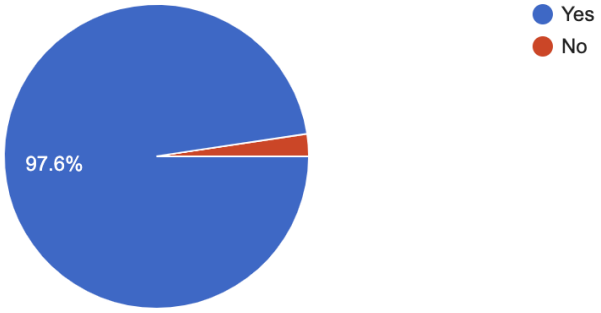
Knowledge of Exposure to Persons Who Tested Positive for SARS-COV-2:



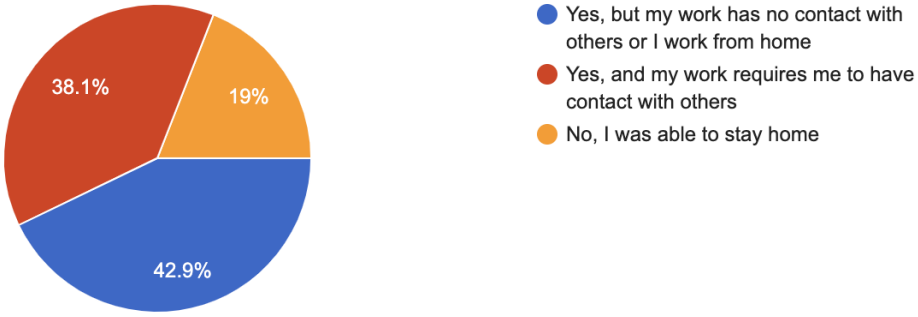
Symptoms Felt from February 2020 - March 2021: (Fever or chills/ Cough/ Shortness of breath or difficulty breathing/ Fatigue / Muscle or body aches / Headache/ New loss of taste or smell / Sore throat/ Congestion or runny nose/ Nausea or vomiting / Diarrhea



Used Masks and Socially Distanced:

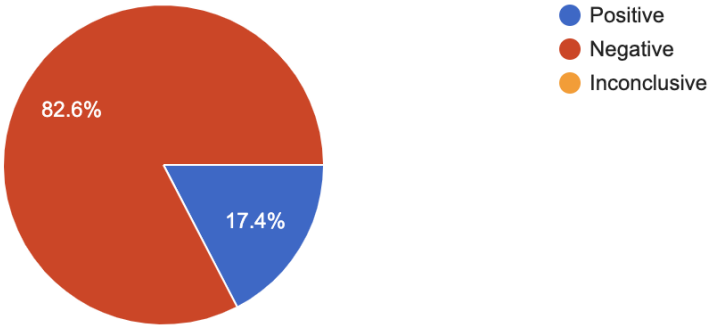


Working During COVID-19:

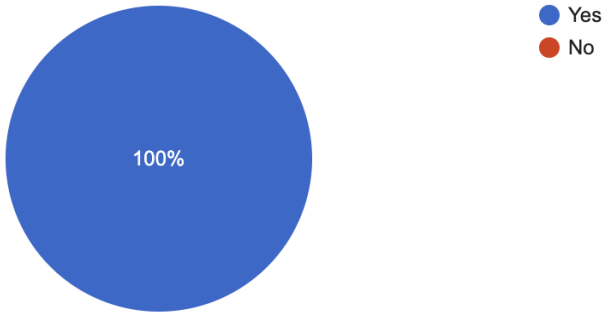


Persons Who Were Tested for SARS-COV-2 - 22 of 64 Participants

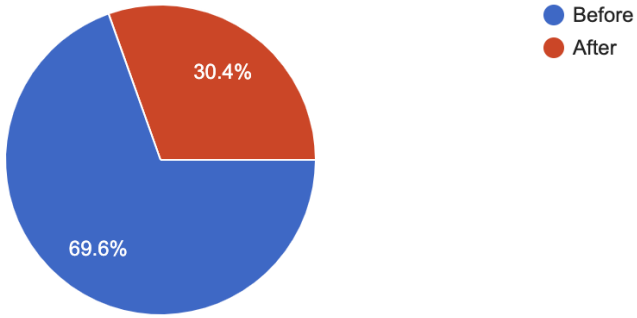
Test Results:



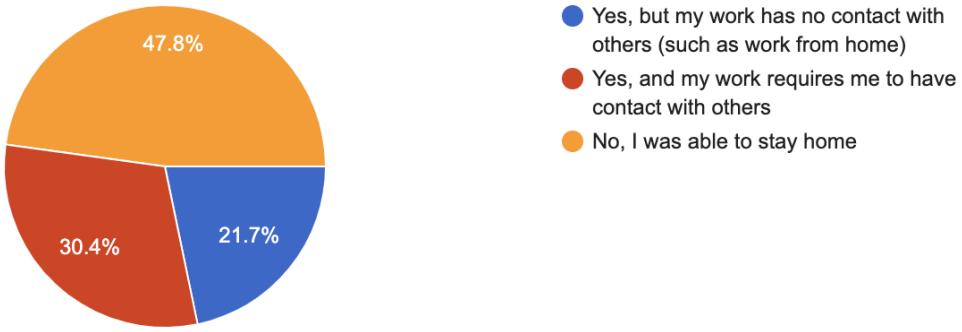
Used Masks and Socially Distanced:



Antiviral Blend Use Before or After Testing:

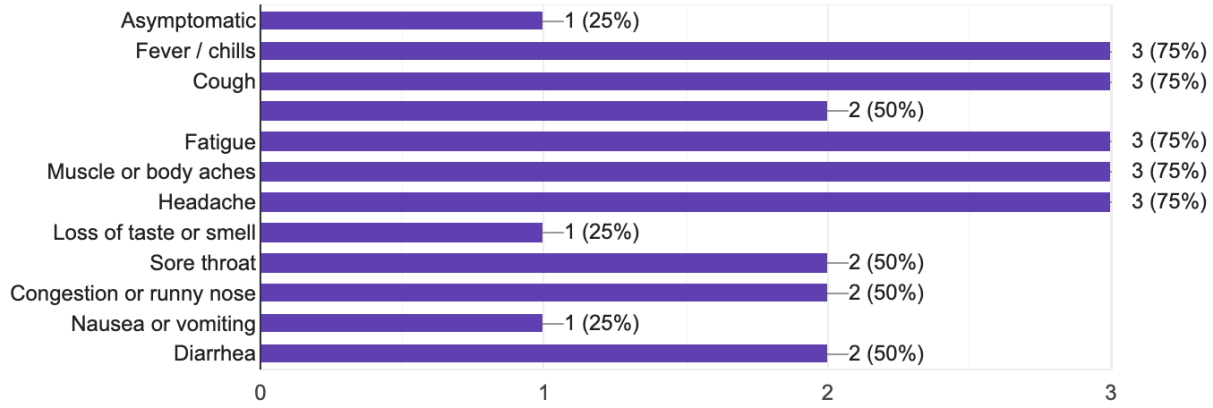


Working During COVID-19:

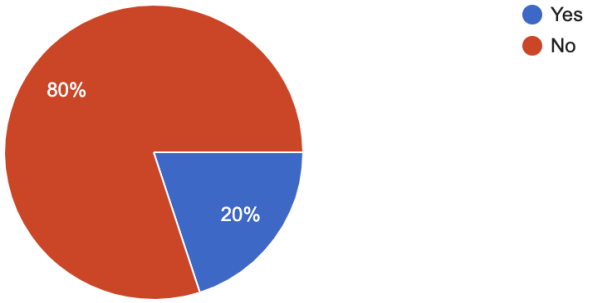


Persons Who Tested POSITIVE for SARS-COV-2 - 5 of 22 Participants

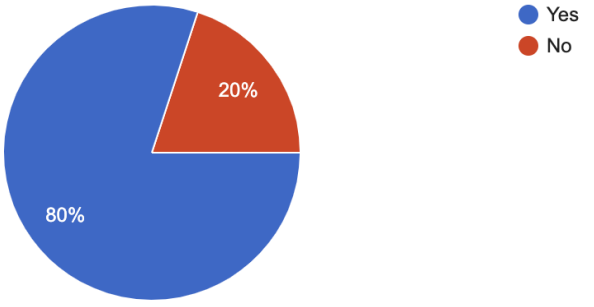
Symptoms Experienced During Infection:



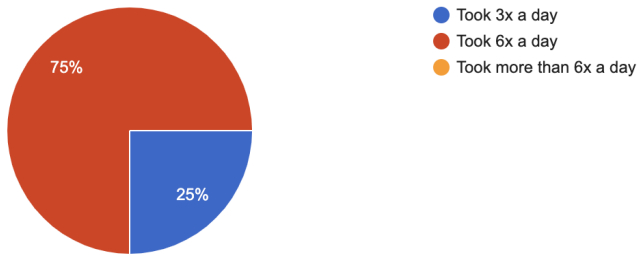
Hospitalizations:



Recovering:



Frequency of Antiviral Blend Use During Active Infection:



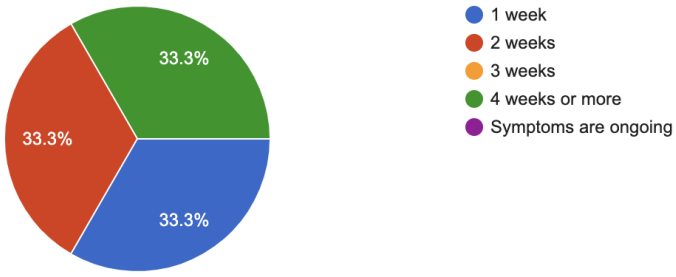
Testimonials From Persons Who Tested Positive:

"I unfortunately ran out of the blend on the first day of my symptoms and was without it for 2 days before the next bottle arrived. I then took it 6x a day usually, but not overnight. Once I felt back to normal I continued 3x a day. **I'm not sure if it helped or not, my covid case was very mild** (wide variety of symptoms and congestion hung around for a bit, but no symptoms were very serious), **so of course impossible to know if it would have been worse without**."

"Once I started taking it I felt better"

"I initially took it for Covid prevention as I work with the public. But I was shocked when **I went for my annual Pap, I've tested positive for HPV for the last two years, and my results were negative. The antiviral blend was my only additional supplement and I truly think that's what cured me of my HPV.**"

Amount of Time for Symptoms to Subside:

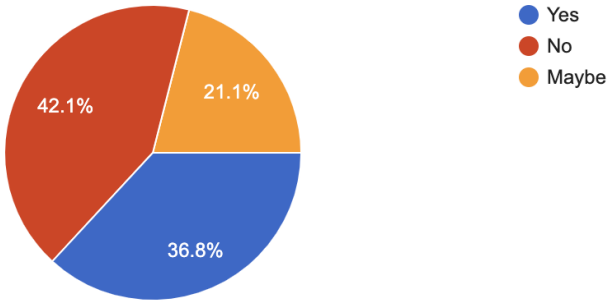


Other Medicines Used During Active SARS-COV-2 Infection:

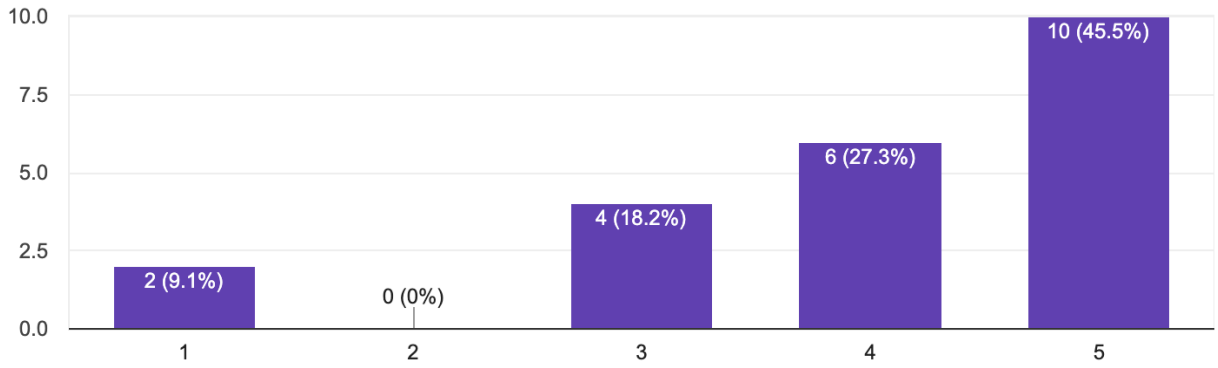
- Antibiotics
- Sudafed
- Mucinex
- Tylenol

Persons Who Tested NEGATIVE for SARS-COV-2 - 17 of 22 Participants

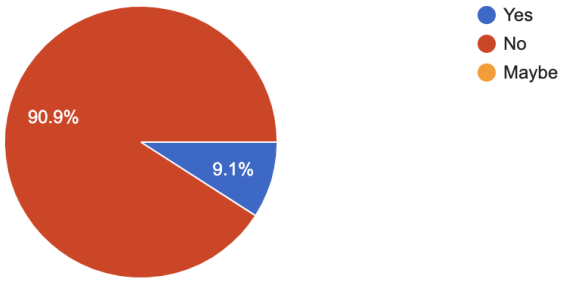
Knowledge of Exposure to Persons Who Tested Positive for SARS-COV-2:



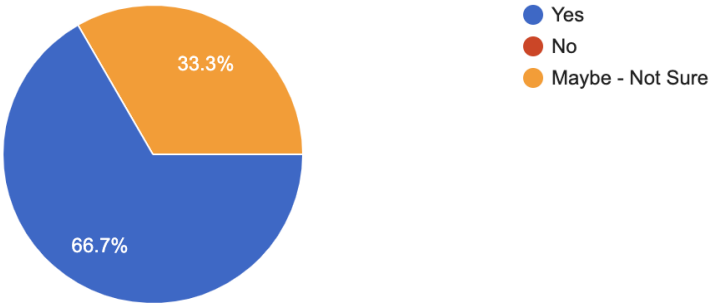
Consistency of Use Over Time (Scale 1-5):



Respiratory or Gastrointestinal Distress from February 2020 to March 2021:



Antiviral Blend Helped With Other Non-Covid Respiratory or Gastrointestinal Illness:



Testimonials from All Participants:

1. "**I work in a medical facility where I have close contact with patients that have been exposed and haven't caught it**."

2. "I took the blend at the beginning of the spread (April through June) and avoided symptoms. There was one week in the middle of that time when I ran a mild fever, but recovered within a few days (I did not get tested because my area didn't have enough tests at that time). I also **usually experience springtime allergies during those months (sneezing and cough) but this year I didn't react to specifically the crepe myrtle and other tree pollen as bad as usual**."

3. "I've never been tested however was **sick with "flu"-like symptoms for the entire month of march. Started taking the blend after however my cough eased up** and I've **noticed my regular seasonal allergies cleared up** as well as a **overall change in energy and vitality**!"

4. "My use was inconsistent but I do increase my use when I am going to leave my house for any reason."

5. "Notably, I received positive HPV tests in January and September 2019; I was unable to clear the virus in that time frame according to my doctor. **After taking the Antiviral Blend for 5 months, I received a negative HPV test in November 2020**."

6. "**I got sick with really bad congestion 1 or 2 months ago and the antiviral blend helped me be able to breathe through my nostril again** :)"

7. "I believe in this product and will take again. The western medicine didn't seem to help as

much."

8. "**I have basically had zero serious illnesses since I started taking it**, which may have more to do with not being exposed to irresponsible people coming in sick at my old job as taking the blend, but also other people in my household have been sick in the timeframe so placebo effect or real effect I am **feeling healthy this year on the anti-viral blend**."

9. "3/4 members in my household are taking the antiviral blend: me, my younger brother, and my dad. **My dad and brother work with people, including some who have tested positive**. **When coworkers have tested positive, dad/brother have gotten tested and always been negative**."

10. "**I had a cough recently and increased to 6x/daily plus napping when I needed to and hydration/miso broth; partner took 3x/daily. Cough has subsided and I feel well at this point.** I could not figure out how to access a COVID test for less than $200 (real great system we've got here) so just opted to stay home and wait it out. I can't say whether the cough was COVID, cold, or dry air, but I can say that even if it was just a cold, **it didn't progress into any other of my usual cold symptoms**. I'm also taking 10 drops of the mushroom blend daily."

11. "I take extra doses if I know a bug is traveling around my son's small school class, and so far **I have gathered zero illnesses in the last year**, which could just be limited contact with other people"

12. "**I did not experience severe coughing, sneezing from tree pollen allergies while taking the antiviral blend spring 2020. In 2019, I had bad allergy symptoms for weeks. Our neighbor's tree shed the same amount of pollen both years.**"

13. "If I offered I'd take this blend for life!"

14. "honestly **feels like this makes a difference and helps me feel secure** in doing something for my health"

15. "It's an incredible blend."

16. "**I had almost everyone close to me on this tincture at the first and second peaks of the pandemic-- my partner, my siblings, my mom, my roommates-- & none of us ever got it despite many of us having in-person public-facing jobs** (though we also took good precautions in other ways so I can't confidently say it was because of the tincture)."

RESULTS

Limited Scope of Participation: The Polycultured Antiviral Blend Research Survey was created to reflect herbal antiviral use by the general public. The demographic data reported reflects a narrower group of people, which is statistically notable. 70.3% of the participants were between the ages of 23-35. 15.6% of participants were between the ages of 36-50. When combined, we can conclude that this survey best reflects findings from persons age 23-50 years old, or of adult age. Therefore, this survey should not be used as a measure of how well herbal antivirals function for the youngest, or oldest (and most at risk) groups susceptible to SARS-COV-2 infection. In addition, 95.3% of participants identified as female. This is significant and therefore the findings in this report should only be used to reflect adult female persons. A small percentage (3.1%) were pregnant or breastfeeding during their use of the Polycultured Antiviral Blend.

Pre-Existing Conditions & Interaction with Other Medicine: 26.6% of participants have pre-existing conditions including asthma, hashimoto's thyroiditis, hypertension, high cholesterol, and type 1 diabetes. 31.3% of participants take some form of pharmaceuticals on a daily basis. Over half (54.7%) of participants also take other herbal medicines daily. It is important to understand how the Polycultured Antiviral Blend could possibly interact with other forms of medicine, both positively and negatively. Not a single person who participated in the survey noted negative side effects or other harmful drug interactions.

Use of the Polycultured Antiviral Blend: The overwhelming number of participants used these herbal antivirals for the purpose of prevention (89.1%). 90.6% of participants used the blend for somewhere between 1 and 6 months or more, at a frequency of 1-3 times per day (92.3%). This reflects that consistency of use is an important factor to consider in these findings.

Tested for SARS-COV-2: 37.5% of participants were, at some point, tested for SARS-COV-2. Therefore the findings in this survey are largely based on self reported symptomatic illness, with a smaller sample size from those who were tested.

Persons Who Were Never Tested for SARS-COV-2: The majority of participants in this survey (64.3%) have no knowledge they were exposed to someone who tested positive. Over half (52.4%) report no form of symptomatic illness from February 2020 to March 2021. The vast majority of participants (97.6%) used face masks and physically isolated themselves from others, although 38.1% had to work public facing jobs which forced

them to have some contact with other people during their use of herbal antivirals.

Persons Who Were Tested for SARS-COV-2: Out of the 22 participants who were tested for SARS-COV-2, 17 (82.6%) received a negative result. All 22 participants reported using masks and physical distancing from other people, although 30.4% had to work public facing jobs which forced them to have some contact with other people. The majority of participants (69.6%) utilized the Polycultured Antiviral Blend before being tested for SARS-COV-2.

Persons Who Tested Positive for SARS-COV-2: Out of 5 participants who tested positive on an RT-PCR nucleic acid test, 1 person was asymptomatic. The other 4 participants noted symptoms such as fever, chills, cough, fatigue, muscle or body aches, headache, sore throat, congestion or runny nose, nausea or vomiting, and diarrhea. Only one participant noted a loss of taste or smell. Only one participant was hospitalized, and one participant reports they are not recovering. Most participants (75%) increased their dosage during the active SARS-COV-2 infection, taking one dropper full, six times per day. 66.6% of participants had their symptoms subside within 2 weeks.

Persons Who Tested Negative for SARS-COV-2: Out of the 17 participants who tested negative, 36.8% of these participants report knowledge of exposure to someone who had tested positive for the virus, and an additional 21.1% report that maybe they were exposed. 90.9% report no respiratory or gastrointestinal sickness from January 2020 to March 2021. For the 9.1% that did note illness, all report that the Polycultured Antiviral Blend was useful or maybe useful for their non-COVID illness.

CONCLUSION

This survey of 64 participants brings us closer to understanding how herbal antivirals can be utilized alone, as well as in addition to other therapeutics, in order to produce better outcomes related to the SARS-COV-2 pandemic. In this report we looked at whether or not the Polycultured Antiviral Blend could be useful for preventing infection during exposure, for treating active infections, and for treating post-coronavirus effects. Ultimately this report most strongly reflects use for prevention and treating active infections. We will conduct more surveys in the future to learn more about the Antiviral Blend for post-coronavirus side effects as more people are post infection and recovering.

Some of the limitations of the data sampled here include the small sample size of 64 participants, with the vast majority of them being adult females. It is also important to note that the majority of participants were not tested for SARS-COV-2 and that we are

relying on self reported symptomatic illness. In addition, most people who participated in the survey also used masks and physical distancing from others during their use of the Polycultured Antiviral Blend, which may have contributed to their limited exposure to the virus overall.

With that said, there were also many positive findings in this survey, despite its limited scope. We now know that this blend can be used alongside pharmaceuticals and other herbal medicine without side effects. The anecdotal reports are also very encouraging. A few participants noted that they haven't gotten ill at all in the past year, some of whom were exposed to those who tested positive for SARS-COV-2. Those participants that did report illness specifically reported that the blend helped them with respiratory symptoms or that the blend quelled the progression of the illness. One anecdote includes the explicit information that the blend helped break up mucus in the lungs.

There were other notable unexpected findings in the survey. Most encouraging was a report from one participant who tested positive for human papilloma virus (HPV) in two separate tests in January and September 2019. After 5 months of using the Polycultured Antiviral Blend, they received a negative test for HPV in November of 2020. This lends credence to the existing research behind many of the herbs in the blend which states that the herbs have broad spectrum antiviral use beyond SARS-COV-2. More study is needed.

Another remarkable finding from 3 participants noted that their seasonal allergies seemed to be reduced or fully subsided while using the Polycultured Antiviral Blend. Skullcap baicalensis (Chinese Skullcap) and compounds found in Glycyrrhiza glabra (Licorice root) in particular have been studied in their ability to prevent histamine release. In the future, these herbs could be utilized as a natural antihistamine to be used during allergy season.

A few participants also noted an increase in vitality and overall wellness from the use of these herbs. It is unclear which mechanisms caused this effect but more study is needed.

In conclusion, the Polycultured Antiviral Blend has broad spectrum antiviral capability in addition to its usefulness during the SARS-COV-2 pandemic. We are pleased with the results from this survey, that the majority of participants did not get ill while using the blend, and that the majority of those tested received a negative result. The blend should be used in conjunction with other pandemic mitigation techniques, and can safely be used alongside most other herbal medicines and pharmaceuticals (see the method section for specific contraindications).

Herbal antivirals have extensive use in several traditional modalities and a solid clinical

research basis to support their use by the general public. Their main advantages are their ability to modulate or reduce cytokines which otherwise make disease from viral infection more severe, their limited side effects, and their overall safety. These herbs are accessible, inexpensive, and can be used by young and old alike, as well as those pregnant and breastfeeding. We hope to expand our research in the future as the pandemic continues and more people have a chance to participate in utilizing herbal antivirals both before and after SARS-COV-2 infections.

We are extremely grateful to all the participants of the Polycultured Antiviral Blend Research Survey. We hope to conduct more research on the use of herbal antivirals as the pandemic continues.

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