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ORIGINAL ARTICLE

Herbs and Medications Used for Treatment and Prophylaxis of Influenza Infections Including H5N1, H1N1, SARS-CoV, and SARS-CoV-2

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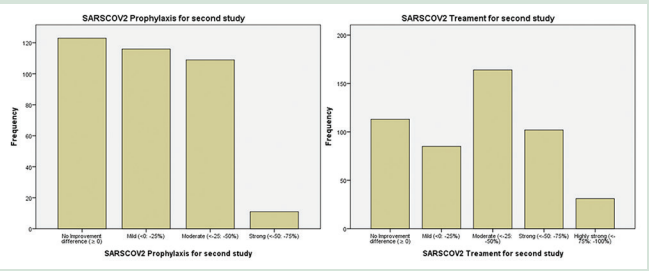
ABSTRACT

Background: Herbs are plants or plant parts used for their scent, flavor, or therapeutic properties. Herbal medicine is one type of dietary supplement that has been used for thousands of years for treatment or prophylaxis of many diseases including influenza virus infection. Although there are many previous studies about these issues, I did not find many research about using these herbs in treatment or prophylaxis of other influenza infections including H5N1, H1N1, severe acute respiratory syndrome coronavirus (SARS-CoV), and SARS-CoV-2. **Objective:** To collect, evaluate, and explore new important data about using medicinal herbs in these disorders' treatment or prophylaxis. **Materials and Methods:** I collected and explored new results and data from 24 professional health-care givers who had an experience about using these herbs in treatment or prophylaxis of these diseases. Then, I evaluated descriptively and quantitatively the results with alpha significance level ≤5% by tests such as Chi-square one-sample and reliability and validity tests. **Results:** The study showed many significant results about using these herbs, through using descriptive tests including one-sample Chi-square test, like in SARS-CoV-2 treatment (n = 414) with mean = 2.5870 ± 0.06730 and $P < 0.05$, while in SARS-CoV-2, prophylaxis (n = 275) with mean = 2.1164 ± 0.06271 and $P < 0.05$. **Conclusion:** This study revealed that there are some particular herbs that can be used in the treatment and prophylaxis of these diseases as adjunctives to the main typical treatment regimen, not as a monotherapy. Furthermore, many studies should be conducted in this field.

Key words: Dietary supplement, *Echinacea*, H1N1, H5N1, infectious disorders, medicinal herbs, SARS-CoV, SARS-CoV-2

SUMMARY

- Herbs and medications, that are used for treatment and prophylaxis of Influenza Infections, show effective positive results.



Abbreviations Used: n=total sample size. SARS CoV=severe acute respiratory syndrome coronavirus. COVID-19=It is an infectious disease which is caused by (SARS-CoV-2). Swine influenza (influenza typeA) is an infection (endemic inpigs, also called Spanish flu): It has several types such as H1N1 and H1N2. SARS is a disease that is caused by SARS-CoV. Abird-adapted strain of H5N1 called HPAIA (H5N1) for highly pathogenic avian influenza virus of type A of subtype H5N.

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INTRODUCTION

Herbs are plants or plant parts used for their scent, flavor, or therapeutic properties. Herbal medicine is one type of dietary supplement that has been used for thousands of years for treatment or prophylaxis of many diseases including influenza infections either by physician's prescriptions or by people themselves, as many of these herbs are considered over-the-counter medicines. Furthermore, some herbs that have with dual actions are usually used more dominated than other herbs such as garlic *(Allium sativum)* and ginger *(Zingiber officinale)*. However, in most cases, medicinal herbs were used as adjunctives with the recommended drug regimen, not used alone.[1]

Recently, some physicians have tried to use some of these previous herbs in treatment and prophylaxis of some other influenza infections, such as H5N1, H1N1, severe acute respiratory syndrome coronavirus (SARS CoV), and SARS CoV 2, the usual (typical) drug treatment regimen, for example, immunostimulant herbs such as *Echinacea purpurea, Panax ginseng,* and garlic *(A. sativum)*.[2,3]

Furthermore, there are some herbs that can be used in these issues to improve blood flow and to remove blood stasis such as *Bacopa* (*Bacopa monnieri*), black pepper (*Piper nigrum*), butcher's broom (*Ruscus aculeatus*), cayenne (*Capsicum annuum*), chickweed (*Stellaria media*), ginger (*Z. officinale*), gotu kola (*Centella asiatica*), hawthorn (*Crataegus*), maidenhair (*Ginkgo biloba*), thyme (*Thymus vulgaris*), and turmeric (*Curcuma longa*).[4,5]

Besides, blood thinner herbs, they are natural remedies that can reduce the risk of clotting such as turmeric (*C. longa*), ginger (*Z. officinale)*, cinnamon (*Cinnamomum verum*), cayenne peppers (*C. annuum*),

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Table 1: Survey form

Character	Number of people who experienced a degree of the decreasing severity of the disease symptoms in case of treatment, or they refer to the degree of change in disease severity in the case of infection or infection probability (in the case of prophylaxis) comparing to using the usual (typical) drug regimen alone				
	No improvement difference (≥0)	Mild (< 0: −25%),	Moderate (<−25: −50%),	Strong (<−50: −75%),	Highly strong (<−75%: −100%)
Common cold treatment					
Common cold prophylaxis					
Flu treatment					
Flu prophylaxis					
H5N1 treatment					
H5N1 prophylaxis					
H1N1 treatment					
H1N1 prophylaxis					
SARS-CoV treatment					
SARS-CoV-2 prophylaxis					
Do you agree to participate this information for research and publishing purposes without publishing any private in information or any risks for any participant? Yes, I agree					

Vitamin E, Omega−3 fatty acid (Omega−3 is one of the most common natural blood thinners known; it is found in fish oils), that can be occurred to patients with many risks such as heart attack, stroke, or with coronavirus infection (COVID-19). Furthermore, Australian research in 2004 found that individuals who drank a cup of tomato juice once a day for 3 weeks saw a 27% reduction in the "stickiness of platelets." However, they have not been tested and compared against prescription blood thinners.[6]

Despite there are previous studies about common cold and influenza virus infections treatment, but I did not any study that has explained (in deep and comprehensive way) the using of these herbs (alone and with other substances) in the treatment or prophylaxis of these other diseases such as: H5N1, H1N1, SARS CoV, and SARS-CoV-2.[7,8,9]

Hence, in aim to fill this gap, in this research, I collected and explored some important data (with alpha significance level ≤5%) about these issues, and the study demonstrated many positive significant effects in treatment or prophylaxis of some diseases, including H5N1, H1N1, SARS-CoV, and SARS-CoV-2.[9] However, other new studies with a larger sample size should be conducted.

MATERIALS AND METHODS

During April 2019–May 2020, I collected some related data (by online questionnaires [an observational cross sectional study] with content validity index 0.935 and reliability 0.946[10]) from 24 professional health care givers (physicians and general practitioners) from many countries all over the world from who had an experience using these herbs in treatment or prophylaxis of these diseases (not from a specific local area or country. So, no needed permissions and no ethics approval from any local authority or local community, such as (the Research Ethics Committee [REC] to do that survey).[11] They gave me all the required information without any identification data such as name or address, and no risk at all (so no need for written consent. However, I wrote a consent paragraph with the survey).[11] Furthermore, all medications that are used in all these studies are according to the United States Pharmacopoeia (USP).

I made a scale from 5 stages (from 1 to 5) to determine the variation (percentage and degree)[10] of disease severity, or probability of infection attack or symptoms change after using the treatment regimen, comparing with the use of the usual (typical) drug regimen alone without any herbal origin drug.

The negative numbers refer to the decreasing in the severity of the disease in case of treatment option (including symptoms, period of recovery, morbidity, and mortality reduction), or they refer to the degree of change in disease severity if infection occurred, or infection probability in the case of prophylaxis, as in the following order: no improvement difference (or like use typical drug regimen alone) (≥0), mild (>0: −25%), moderate (>−25: −50%), strong (>−50: −75%), highly (or very) strong (>−75%: −100%), while the positive numbers refer to the opposite. Then, I rearranged the results according to the regimen type that was prescribed by the professional health-care givers (physicians and general practitioners) to the patients for their disease treatment or prophylaxis. The collected data are retrospective nominal and ordinal data. Then, they were calculated and evaluated descriptively and inferentially (by statistical tests such as one-sample Chi-square, reliability, and validity tests) with alpha significance level ≤5%[12] to determine the percentage of peoples who experienced positive and/or negative effects, and to determine the relation between using these herbs and these diseases' severity and recovery. AS can be shown in Table 1.

I considered that the results are significant data (the results of each item that achieved the desired therapeutic difference) according to analytical static tests.

The survey questions were as the followings (As can be shown in Table 2):

1. Did you prescribe an herbal medication for treatment or prophylaxis of any type of influenza virus infections including H5N1, H1N1, SARS-CoV, and SARS-CoV-2 before?
   - COVID-19: It is an infectious disease which is caused by(SARS-CoV-2)[13]
   - Swine influenza (influenza type A) is an infection (endemic in pigs, also called Spanish flu): It has several types such as H1N1 and H1N2.
   - SARS is a disease that is caused by SARS-CoV.
   - A bird-adapted strain of H5N1 called HPAIA (H5N1)for highly. pathogenic avian influenza virus of type A of subtype H5N.
   - Flu and common cold.
2. What was the prescribed regimen for treatment and prophylaxis of these diseases?
3. How many people who had experienced a positive effect or an improvement after using these herbs, and how many people who had experienced no improvement effects after using these herbs, comparing with the use of the usual (typical) drug regimen alone without any herbal origin drug?
4. What was the degree of this improvement who people experienced, comparing with the use of the usual (typical) drug regimen alone without any herbal origin drug?

RESULTS

I evaluated descriptively and quantitatively (by tests such as one-sample Chi-square, reliability, and validity tests) with alpha significance level ≤5% to determine the percentage of peoples who have experienced a positive and negative effect and to determine a relation between using these herbs and these diseases severity and recovery.

1. The first question, Did you ever prescribe an herbal medication for treatment or prophylaxis of any type of influenza virus infections including H5N1, H1N1, SARS-CoV, and SARS-CoV-2 before?
   I found that 24 (100%) of 24 professional health-care givers (physicians and general practitioners) have prescribed an herbal medication for treatment or prophylaxis of one or more than one type of influenza virus infections including H5N1, H1N1, SARS-CoV, and SARS-CoV-2.
2. The second, third, and fourth questions,
   - What was the used regimen for treatment and prophylaxis of these diseases?

Table 2: Questions and Answers

Character	Answers percent	The answers
Question number 1	24 (=100%) of 24	Yes, physicians and general practitioners have prescribed herbal containing regimens before
Question number 2	24 (=100%) of 24	Depending on the type of infection and case situation
Question number 3	24 (=100%) of 24	Depending on the type of infection and case situation
Question number 4	24 (=100%) of 24	Depending on the type of infection and case situation

Table 3: The first study summary

Character	Treatment/change in disease severity (degree and percent)	Prophylaxis/change in disease severity if infection occurred or infection probability (degree and percent)
Common cold	149 of 167 (=about 88%)	102 of 138 (=about 74%)
	No improvement (≥0)=18	No improvement (≥0)=36
	Mild (<0: −25%)=22	Mild (<0: −25%)=31
	Moderate (<−25: −50%)=48	Moderate (<−25: −50%)=25
	strong (<−50: −75%)=52	Strong (<−50: −75%)=36
	Highly strong (<−75%: −100%)=27	Highly strong (<−75%: −100%)=10
Influenza type A or B (flu)	190 of 224 (=about 85%)	179 of 247 (=about 72%)
	No improvement (≥0)=34	No improvement (≥0)=68
	Mild (<0: −25%)=53	Mild (<0: −25%)=60
	Moderate (<−25: −50%)=52	Moderate (<−25: −50%)=49
	Strong (<−50: −75%)=48	Strong (<−50: −75%)=47
	Highly strong (<−75%: −100%)=37	Highly strong (<−75%: −100%)=23
Influenza (H5N1)	178 of 268 (=about 66%)	55 of 112 (=about 49%)
	No improvement (≥0)=90	No improvement (≥0)=57
	Mild (<0: −25%)=82	Mild (<0: −25%)=18
	Moderate (<−25: −50%)=48	Moderate (<−25: −50%)=26
	Strong (<−50: −75%)=43	Strong (<−50: −75%)=9
	Highly strong (<−75%: −100%)=5	Highly strong (<−75%: −100%)=2
Influenza (H1N1)	61 of 174 (=about 35%)	44 of 89 (=about 49%)
	No improvement (≥0)=113	No improvement (≥0)=45
	Mild (<0: −25%)=19	Mild (<0: −25%)=12
	Moderate (<−25: −50%)=18	Moderate (<−25: −50%)=16
	Strong (<−50: −75%)=15	Strong (<−50: −75%)=11
	Highly strong (<−75%: −100%)=9	Highly strong (<−75%: −100%)=5
Influenza (SARS-CoV)	37 of 102 (=about 36%)	41 of 101 (=about 40%)
	No improvement (≥0)=65	No improvement (≥0)=60
	Mild (<0: −25%)=14	Mild (<0: −25%)=15
	Moderate (<−25: −50%)=13	Moderate (<−25: −50%)=17
	Strong (<−50: −75%)=8	Strong (<−50: −75%)=9
	Highly strong (<−75%: −100%)=2	Highly strong (<−75%: −100%)=0
Influenza (SARS-CoV-2)	268 of 414 (=about 65%)	162 of 275 (=about 59%)
	No improvement (≥0)=146	No improvement (≥0)=113
	Mild (<0: −25%)=45	Mild (<0: −25%)=37
	Moderate (<−25: −50%)=84	Moderate (<−25: −50%)=106
	Strong (<−50: −75%)=113	Strong (<−50: −75%)=18
	Highly strong (<−75%: −100%)=26	Highly strong (<−75%: −100%)=1
Treatment course period	Three times daily for 2-3 weeks for all diseases, except for common cold for 1-2 weeks only	One or two times daily

- How many people who had experienced negative or no positive effects after using these herbs, and how many people who had experienced a positive effect or an improvement after using these herbs, comparing with the use of the usual (typical) drug regimen alone?
- What is the degree of this improvement?

I found that 24 (100%) of 24 said the required regimen, number of recovered people, number of unrecovered people, and degree of improvement, which are depending on the type of infection and case situation.

The results of the first study can be summarized in Table 3. As the answers for question numbers 2, 3, and 4 need to be more detailed, I collected and rearranged the results according to drug regimen type.

The first study

In treatment, using immunostimulant herbs *E. purpurea* with a daily dose of 750–1500 mg capsules (containing *E. purpurea* powder) alone or with one of the other immunostimulant drugs, such as garlic *(A. sativum)* 150–1200 mg USP capsules of aged garlic *(A. sativum)* extract once daily, or *P. ginseng* 200–1000 mg USP capsules daily for treatment regimen or half of this dose in prophylaxis regimen. In addition to one or two of other additives (according to the patient and the disease type) that should be in typical therapeutic effective doses, such as:

- Multivitamins and minerals, such as Vitamin D_3 (cholecalciferol), C (ascorbic acid), E (tocopherol), Zn (zinc), and other minerals
- Other hot medicinal herbal drinks (one cup every 6–8 h) such as ginger (*Z. officinale*) syrup or mint (*Mentha piperita*) syrup or black seed (*Nigella sativa*).

The recommended drug treatment regimen guidelines vary from one country from another. However, it could contain drugs such as:

- B2 receptor agonist, as salbutamol 2 mg USP tablets or syrup, as needed
- Mucosolvents, such as bromhexine 4 mg USP tablets or syrup 2–3 times daily
- Expectorant, as guaifenesin 400 mg USP capsules or syrup 4–6 times daily
- Broad-spectrum antibiotic, according to the case situation
- Corticosteroid drugs, such as dexamethasone intravenous injection, in usual or higher doses of 0.5–30 mg daily according to the case situation.

Hence, the whole course of treatment will be:

One or two immunostimulant herbs (must including *E. purpurea*) + one or two of the additive medications + usual drug treatment regimen (according to treatment guidelines).

All medications with ordinary recommended doses, and for 2–3 weeks. except for common cold for 1–2 weeks, starting from the 1st day or 2nd day of symptom onset. In comparison with the usually recommended drug treatment regimen alone, and the dose in the prophylaxis regimen is half the dose of the treatment regimen.

The results are summarized in Table 3.

The second study

The caregivers have prescribed the same as the previous whole course of treatment with some extra medications as the followings:

One or two immunostimulant herbs (must including *E. purpurea*) + one or two blood thinner herbs (must including ginger [*Z. officinale*] or turmeric [*C. longa*] with typical dose) + one or two herbs that can be used to improve blood flow (must including maidenhair [*G. biloba*]) + three or four of the additive medications + one antiplatelet or anticoagulant drugs (such as enoxaparin 40 mg subcutaneous injection once or twice daily, clopidogrel 75–150 mg oral tablet once daily, or acetylsalicylic acid 75–125 mg oral tablet daily) + usual drug treatment regimen (according to treatment guidelines).

Table 4: The second study summary

Character	Treatment/change in disease severity (degree and percent)	Prophylaxis/change in disease severity if infection occurred, or infection probability (degree and percent)
Influenza (SARS-CoV-2)	382 of 495 (=about 77%)	236 of 359 (=about 66%)
Percentage and degree of disease severity change	No improvement (≥0)=113	No improvement (≥0)=123
	Mild (<0: −25%)=85	Mild (<0: −25%)=116
	Moderate (<−25: −50%)=164	Moderate (<−25: −50%)=109
	Strong (<−50: −75%)=102	Strong (<−50: −75%)=11
	Highly strong (<−75%: −100%)=31	Highly strong (<−75%: −100%)=0
Treatment course period	Three times daily for 2-3 weeks	One or two times daily

Table 5: Descriptive statistics

	n	Mean		SD
	Statistic	Statistic	SE	Statistic
Common cold treatment	167	3.2874	0.09308	1.20292
Flu treatment	224	2.9598	0.08544	1.27873
SARS-CoV-2 treatment for second study	495	2.7030	0.05424	1.20672
Common cold prophylaxis	138	2.6594	0.11149	1.30969
SARS-CoV-2 treatment for first study	414	2.5870	0.06730	1.36930
Flu prophylaxis	247	2.5830	0.08393	1.31910
H5N1 treatment	268	2.2201	0.06913	1.13179
SARS-CoV-2 prophylaxis for first study	275	2.1164	0.06271	1.03986
H1N1 prophylaxis	88	2.0568	0.13557	1.27178
SARS-CoV-2 prophylaxis for second study	359	2.0223	0.04633	0.87775
H5N1 prophylaxis	111	1.9189	0.10408	1.09657
H1N1 treatment	174	1.7816	0.09360	1.23462
SARS-CoV prophylaxis	101	1.7525	0.10284	1.03350
SARS-CoV treatment	102	1.7059	0.10756	1.08626

SD: Standard deviation; SE: Standard error

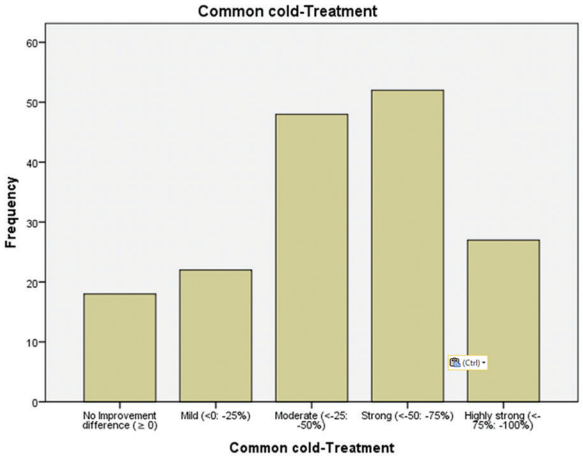
All the medications are taken within ordinary (typical) recommended doses, for 2–3 weeks starting from the 1st day or 2nd day of symptoms onset. In comparison with the usual recommended typical drug treatment regimen alone without any herbal origin drug, and the dose in the prophylaxis regimen is half the dose of the treatment regimen and without any antiplatelet or anticoagulant drugs.

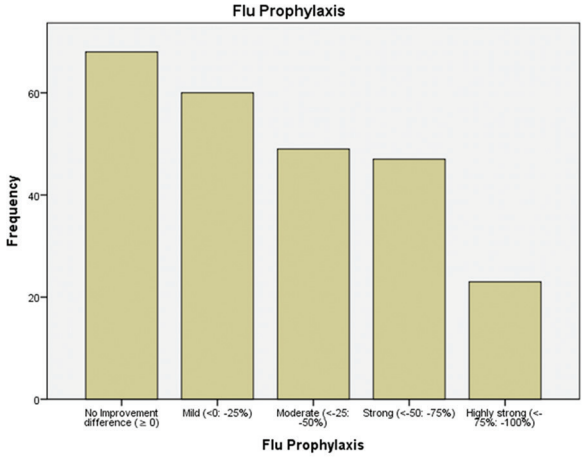
The results of the second study are summarized in Table 4. The most important Statics of the first and the second study can be summarized in Tables 5 and 6. Also, The first and the second study can be represented in the following bar charts (they are 14 bar charts).

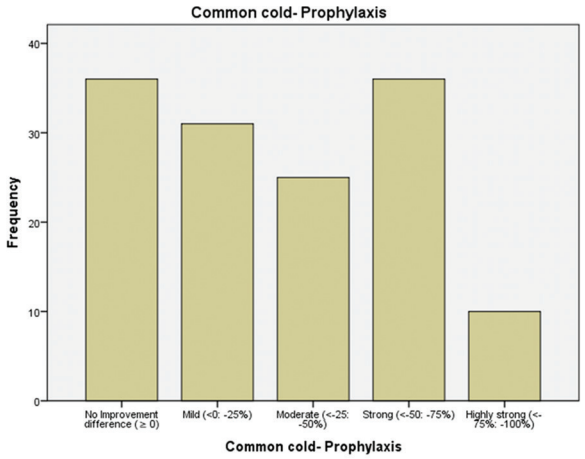
DISCUSSION

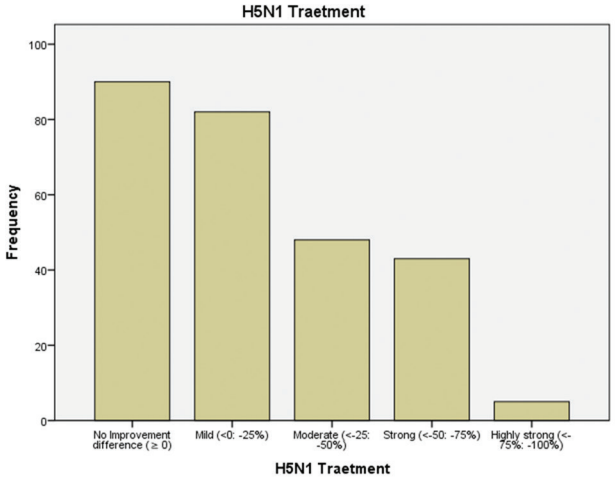
We can find that all professional health-care givers (physicians and general practitioners) have prescribed an herbal medication for treatment or prophylaxis for one or more than one type of influenza virus infections including H5N1, H1N1, SARS-CoV, and SARS-CoV-2.

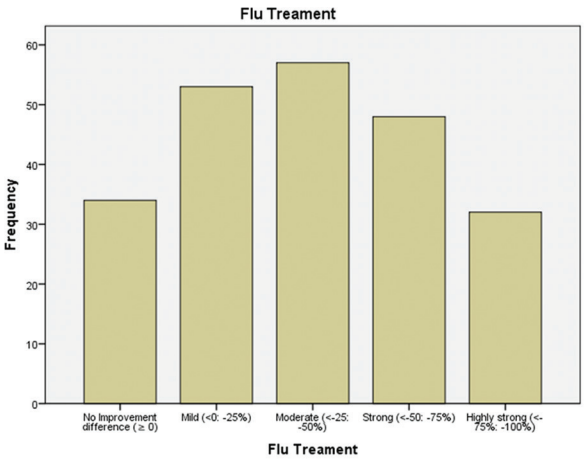
All the medications are taken within ordinary (typical) recommended

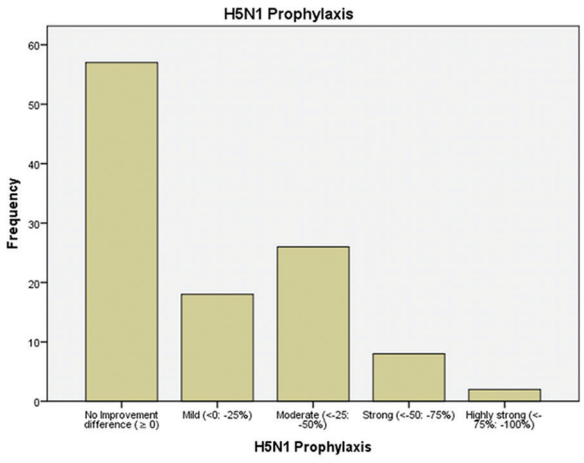


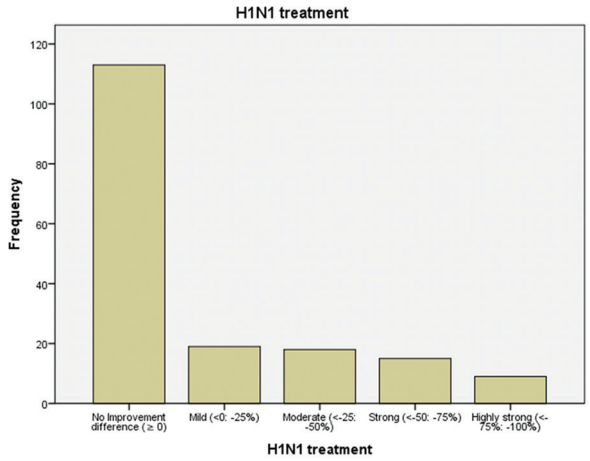


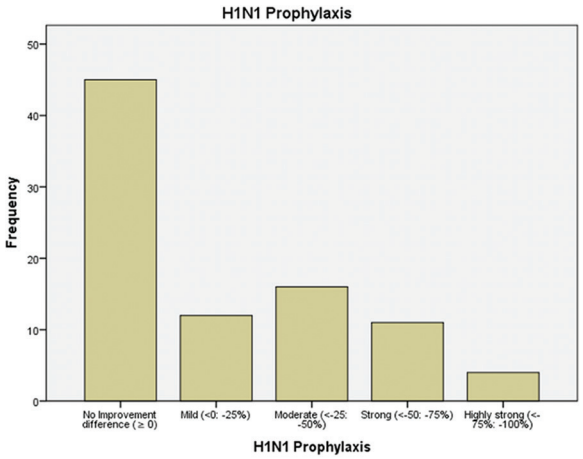


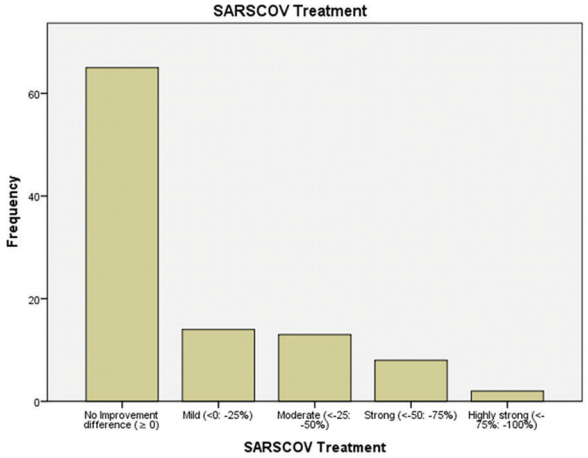


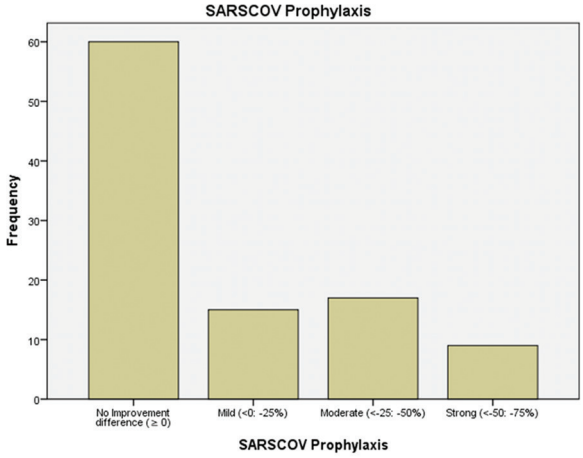


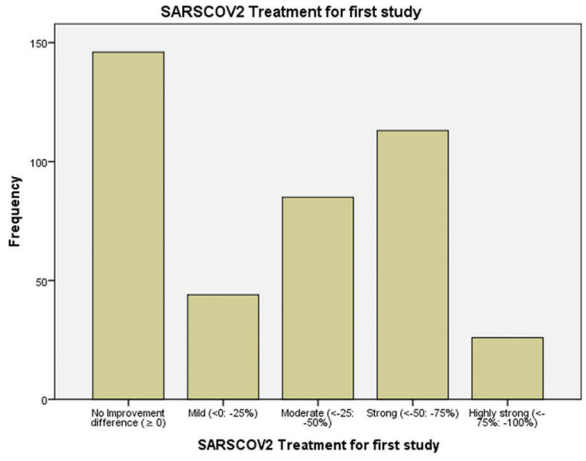


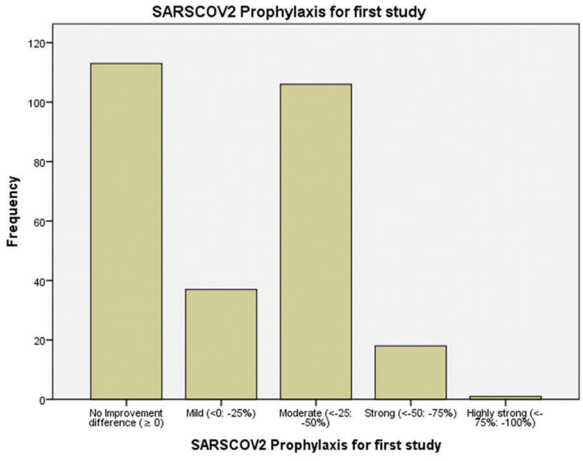

H1N1 treatment
Frequency
120
100
80
60
40
20
0
No Improvement difference (≥ 0)
Mild (<0: -25%)
Moderate (<-25: -50%)
Strong (<-50: -75%)
Highly strong (<-75%: -100%)
H1N1 treatment

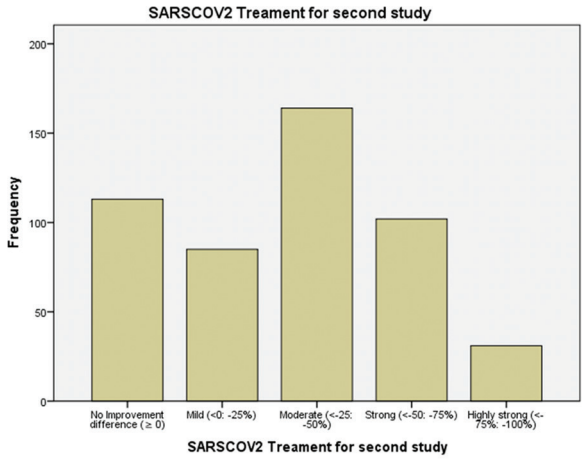

H1N1 Prophylaxis
Frequency
50
40
30
20
10
0
No Improvement difference (≥ 0)
Mild (<0: -25%)
Moderate (<-25: -50%)
Strong (<-50: -75%)
Highly strong (<-75%: -100%)
H1N1 Prophylaxis

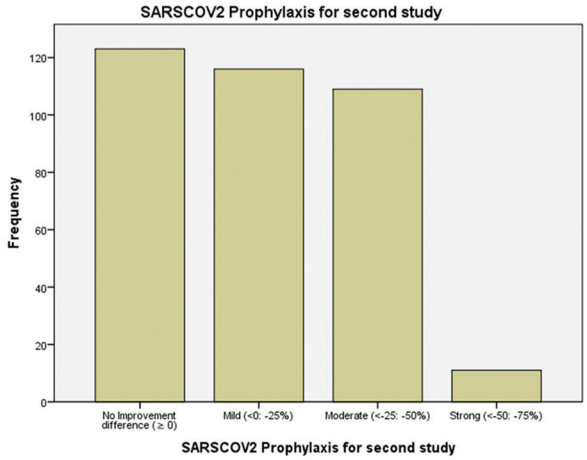

SARSCOV Treatment
Frequency
60
40
20
0
No Improvement difference (≥ 0)
Mild (<0: -25%)
Moderate (<-25: -50%)
Strong (<-50: -75%)
Highly strong (<-75%: -100%)
SARSCOV Treatment


SARSCOV Prophylaxis
Frequency
60
50
40
30
20
10
0
No Improvement difference (≥ 0)
Mild (<0: -25%)
Moderate (<-25: -50%)
Strong (<-50: -75%)
SARSCOV Prophylaxis


SARSCOV2 Treatment for first study
Frequency
150
100
50
0
No Improvement difference (≥ 0)
Mild (<0: -25%)
Moderate (<-25: -50%)
Strong (<-50: -75%)
Highly strong (<-75%: -100%)
SARSCOV2 Treatment for first study


SARSCOV2 Prophylaxis for first study
Frequency
120
100
80
60
40
20
0
No Improvement difference (≥ 0)
Mild (<0: -25%)
Moderate (<-25: -50%)
Strong (<-50: -75%)
Highly strong (<-75%: -100%)
SARSCOV2 Prophylaxis for first study





doses, for 2–3 weeks starting from the 1st day or 2nd day of symptoms onset. In comparison with the usual recommended typical drug treatment regimen alone without any herbal origin drug, and the dose in the prophylaxis of regimen in prophylaxis is equal to half the dose of the treatment regimen.

In the first study, we can see that both results of prophylaxis and treatment are clear and significantly high strong correlated in treatment and prophylaxis of common cold, all influenza types, while in the second study, both results of prophylaxis and treatment are clear and more significantly high strong correlated in treatment and prophylaxis of influenza (SARS-CoV-2); this is my due to the addition of extra medications to first study drug regimen like blood thinner herbs, herbs that can be used to improve blood flow with one antiplatelet or anticoagulant drugs (enoxaparin 40 mg subcutaneous injection once daily or twice daily, clopidogrel 75–150 mg once daily orally, or acetylsalicylic acid 75–125 mg oral tablet daily). This may be due to the anticlotting effect of these drugs, which is essential to avoid fatal influenza (SARS-CoV-2) implications such as respiratory failure and death.[13]

We can notice that all data are significant for the previous diseases (as $P >$ value alpha value),[14] but there are some data that tend to have a more clear effect than the other, as in the followings:

- In common cold treatment, the results of improvement (the mean 3.2874 ± 0.09308) tend between moderate, strong effect.
- In common cold prophylaxis (mean = 2.6594 ± 0.11149), influenza (Flu) prophylaxis (mean = 2.5830 ± 0.08393), flu treatment (mean = 2.9598 ± 0.08544), SARS-CoV-2 prophylaxis in the first study regimen (mean = 2.1164 ± 0.06271), SARS-CoV-2 treatment in the first study regimen (mean = 2.5870 ± 0.06730), SARS-CoV-2 prophylaxis in the second study regimen (mean = 2.0223 ± 0 .04633), SARS-CoV-2 treatment in the second study regimen (mean = 2.7030 ± 0.05424), H1N1 prophylaxis (mean = 2.0568 ± 0.13557), and H5N1 treatment (mean = 2.2201 ± 0.06913), the results tend between mild and moderate effect, as shown in Table 6
- While in H5N1 prophylaxis (mean = 1.9189 ± 0.10408), H1N1 treatment (mean = 1.7816 ± 0.09360), SARS-CoV-1 prophylaxis (mean = 1.7525 ± 0.10284), and SARS-CoV treatment (mean = 1.7059 ± 0.10756), the results tend between mild and no improvement effect, as shown in Table 6.

Despite the presence of many previous studies that have shown similar results about using these herbs in the treatment and prophylaxis of some diseases such as common cold and influenza,[15,16] I failed to find any study that has explored any information about using of herbal medications in the treatment and prophylaxis of other influenza virus infections, including H5N1, H1N1, SARS-CoV, and SARS-CoV-2. However, new research should be conducted for creating stronger evidence.

CONCLUSION

The study revealed that medicinal herbs can be used as adjunctives with the recommended drug regimen, better than used alone, such as *E. purpurea* that can produce positive effects in treatment and prophylaxis of common

Table 6: Hypothesis test summary (of the first and the second study)

No	Null hypothesis	Used test	Significance (*P*)	Decision
1	Common cold-Treatment	Chi-Square One-Sample Test	0.000	Reject null hypothesis
2	Common cold- Prophylaxis	Chi-Square One-Sample Test	0.002	Reject null hypothesis
3	Flu Treament	Chi-Square One-Sample Test	0.023	Reject null hypothesis
4	Flu Prophylaxis	Chi-Square One-Sample Test	0.000	Reject null hypothesis
5	H5N1 Traetment	Chi-Square One-Sample Test	0.000	Reject null hypothesis
6	H5N1 Prophylaxis	Chi-Square One-Sample Test	0.000	Reject null hypothesis
7	H1N1 Treatment	Chi-Square One-Sample Test	0.000	Reject null hypothesis
8	H1N1 Prophylaxis	Chi-Square One-Sample Test	0.000	Reject null hypothesis
9	SARSCOV Treatment	Chi-Square One-Sample Test	0.000	Reject null hypothesis
10	SARSCOV Prophylaxis	Chi-Square One-Sample Test	0.000	Reject null hypothesis
11	SARSCOV2 Treatment for first study	Chi-Square One-Sample Test	0.000	Reject null hypothesis
12	SARSCOV2 Prophylaxis for first study	Chi-Square One-Sample Test	0.000	Reject null hypothesis
13	SARSCOV2 Treament for second study	Chi-Square One-Sample Test	0.000	Reject null hypothesis
14	SARSCOV2 Prophylaxis for second study	Chi-Square One-Sample Test	0.000	Reject null hypothesis

cold and influenza infections, including H5N1, H1N1, SARS-CoV, and SARS-CoV-2. Especially, if these herbs are combined with the usual drug treatment regimen and additive medications such as Vitamins D, C, Zn mineral, hot drinks such as ginger syrup or mint syrup).

Furthermore, this improvement effect in the treatment of SARS-CoV-2 can be increased significantly if we add (to the first study drug regimen): one or two blood thinner herbs (must including ginger (*Z. officinale*) or turmeric (*C. longa*) with typical dose) + one or two herbs that can be used to improve blood flow (must including maidenhair (*G. biloba*)) + one antiplatelet or anticoagulant drugs (heparin, enoxaparin, or acetylsalicylic acid 75–125 mg daily). This may be due to the anticlotting effect of these drugs, which is essential for avoiding fatal influenza (SARS-CoV-2) implications such as respiratory failure and death. However, many studies should be conducted in this field.

Ethics approval and consent to participate for publication

Not applicable. Because I collected the data (by online questionnaire from professional health-care givers (such as: physicians and general practitioners) from many countries all over the world, not from specific local area or specific country,[17] so I did not need any ethical approval from any local authority. Furthermore, there are no risks and no disclosing for any private information, so informed consent is not applicable. However, I wrote a consent paragraph with the survey. This research is done according to the National Guidelines Regarding Research Ethics in Saudi Arabia.

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Conflicts of interest

There are no conflicts of interest.

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