

ORIGINAL

The effect Phenthymol (Thyme, Anethum graveolens, Ajwain and Honey) in the Treatment of Corona Virus Disease (Covid 19)

El efecto Phenthymol (Thyme, Anethum graveolens, Ajwain y Honey) en el tratamiento de la enfermedad por virus corona (Covid 19)

**Mahdi Mazinani¹ , Samira Sangi² , Sareh Sangy¹ ,
Hamzeh Safavi Hammami¹ , Pegah Farshidfar² **

1. Department of Traditional medicine clinic, ponak salamatkadeh, Iran university of medical sciences, Tehran, Iran

2. Family Social Group, Applied Science Center, Kahrizak Charity Hospital for the Elderly and the Disabled, Tehran, Iran

Corresponding author

Sareh sangy

Department of Traditional medicine clinic, ponak salamatkadeh,

Iran university of medical sciences, Tehran, Iran

E-mail: sareh.sangy@gmail.com

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Abstract

Introduction: Coronavirus is one of the main pathogens and since common coronary therapies such as hydroxychloroquine are often symptomatic, the use of traditional medicine herbs is one of the ways to obtain new drugs. The aim of this study was to evaluate the effect of Thyme, Anethum graveolens, Ajwain and Honey in the treatment of corona virus disease (Covid 19)

Methods: Double-blind randomized clinical trial, with a control group with a sample size of 60 people in patients with a diagnosis of Quid-19 referred to the Tehran Punak Health Center from the beginning of January 2016, patients in the placebo group received treatment in addition to standard treatment (5 g every 6 hours). The results were assessed using SPSS software.

Findings: There was no significant difference in the baseline data of sex, age, height, weight, past medical history, initial symptoms, disease diagnosis, and medication between the patients diagnosed with and suspected to have COVID-19 among the three treatment groups ($P > 0.05$). Fever, diarrhea, shortness of breath and body aches and fatigue in people who used the herbal composition (Thyme, Anethum graveolens, Ajwain and Honey) had a significant reduction on 14th day.

Conclusion: Since the nature of the herbal composition used is hot and dry, is combined with honey and it can be effective in reducing the cold of cold organs. Also, Thyme, Anethum graveolens, Ajwain and honey have antioxidant and anti-inflammatory, analgesic and effective effects. They are used to treat infections. It is evident in patients with coronavirus because of the high levels of white blood cells and chemokines.

Keywords: Thyme, anethum graveolens, ajwain, honey, covid19.

Resumen

Introducción: El coronavirus es uno de los principales patógenos y dado que las terapias coronarias comunes, como la hidroxilcloroquina, a menudo son sintomáticas, el uso de hierbas medicinales tradicionales es una de las formas de obtener nuevos medicamentos. El objetivo de este estudio fue evaluar el efecto de Thyme, Anethum graveolens, Ajwain y Honey en el tratamiento de la enfermedad por coronavirus (Covid 19)

Métodos: Ensayo clínico aleatorizado doble ciego, con un grupo control con un tamaño de muestra de 60 personas en pacientes con diagnóstico de Quid-19 remitidos al Centro de Salud de Teherán Punak desde principios de enero de 2016, los pacientes del grupo placebo recibieron tratamiento además del tratamiento estándar (5 g cada 6 horas). Los resultados se evaluaron mediante el software SPSS.

Hallazgos: No hubo diferencias significativas en los datos iniciales de sexo, edad, altura, peso, historial médico anterior, síntomas iniciales, diagnóstico de la enfermedad y medicación entre los pacientes diagnosticados y con sospecha de tener COVID-19 entre los tres grupos de tratamiento ($P > 0,05$). La fiebre, la diarrea, la dificultad para respirar y los dolores corporales y la fatiga en las personas que usaron la composición a base de hierbas (tomillo, Anethum graveolens, Ajwain y miel) tuvieron una reducción significativa el día 14.

Conclusión: Dado que la naturaleza de la composición herbal utilizada es caliente y seca, se combina con miel y puede ser eficaz para reducir el frío de los órganos fríos. Además, el tomillo, el Anethum graveolens, el ajwain y la miel tienen efectos antioxidantes y antiinflamatorios, analgésicos y eficaces. Se utilizan para tratar infecciones. Es evidente en pacientes con coronavirus debido a los altos niveles de glóbulos blancos y quimiocinas.

Palabras clave: Tomillo, anethum graveolens, ajwain, miel, covid19.

Introduction

Corona is a single-stranded RNA virus found in other animals including pigs in 2014 which has caused diarrhea, dehydration and even death in animals. Subsequently, the latest and most recent coronavirus appeared on January 30 in Wuhan, China, which the World Health Organization called Covid 19 (Cronavirus 2019). The Covid virus can be transmitted from animal to human and from human to human through mucous secretions (sneezing and coughing) or physical contact. Common symptoms of this virus are cough, sore throat, fever and chills, and sometimes gastrointestinal symptoms and loss of sense of smell and taste, diarrhea and acute respiratory symptoms. In addition, coronaviruses also cause shingles infection¹. Common therapies, including hydroxychloroquine, chloroquine, and amiodarone, are often used to treat symptoms. On the other hand, diseases that have occurred throughout history have much in common (such as cholera), which reminds people of their experiences so that they do not fall prey to the repetition of history.

Cholera has killed humans for many years about a century while fighting and controlling cholera with the simple principles of which society was unaware at the time. The weather is found. It is caused by *Vibrio Cholera*, which is the worst epidemic². The disease has become a pandemic over and over again in the past, and it took years for humans to control cholera. After cholera, human life changed dramatically³. This could be the starting point for changing the eating behaviors of East Asians and even Be the people of the world^{4&5}. The outbreak of this disease caused a lot of research in different countries. In this regard, medicinal plants have also been considered by researchers.

Using traditional medicine herbs is one of the ways to get new medicines. But systematic search for the active ingredients of these plants on all diseases is very long. Therefore, relying on indigenous teachings is one of the most accepted strategies in the world in the discovery, application and research of medicinal plants. Traditional Iranian medicine is one of the ancient foundations of medicine and contains valuable information in the use of plants in treatment. Among these medicinal plants, we can mention Thyme, *Anethum graveolens*, Ajwain and honey.

Thyme

Thyme belongs to the Labiatae family and is widely distributed in Iran, Afghanistan and Pakistan. Thyme is useful and invigorating for strengthening the nerves, treating depression, fatigue and insomnia. This plant has antimicrobial, antibacterial, antifungal and anti-parasitic properties and has anti-diarrheal properties. Also, the drug is used in traditional medicine as a mucus in

bronchitis and other diseases of the respiratory system is used and in terms of scientific anti-inflammatory properties, antioxidant, analgesic, anti-rheumatic, anti-worm, anti-oxidant, anti-spasmodic properties antidiarrheal and Anticonvulsants⁶. On the other hand, thymol, which is the active ingredient of thyme, due to its antiseptic effect can appear in intestinal diseases or its disinfection in spontaneous poisoning due to intestinal infection, dysentery and cholera with a beneficial effect⁷.

Ammi Trachyspermum (Ajwain)

The scientific name of this plant is *Ammi Trachyspermum* from the genus Parsley (Umbelliferae). It is an herbaceous, annual, hairless plant with a height of 30 to 90 cm that goes by car in the eastern regions of India, Iran and Egypt. They have been used in traditional Iranian medicine for thousands of years. The fruits are small, oval and yellow in color and have a smell similar to the smell of thymol which is the medicinal part of this plant. Antiemetic, expectorant and topically used in the treatment of rheumatic pain⁸. Broncho dialysis and analgesic effects for copticum C was shown. Therapeutic effects of this plant in gastrointestinal disorders such as reflux, cough, abdominal tumors, abdominal pain and bloating and *Helicobacter pylori* have been seen and also has a therapeutic effect on skin, neurological and urinary diseases of the genitals, diuretics, anti-flatulence and anti-worm has been proven^{9&10}.

It is also an invigorating, tonic, stimulant and windbreaker¹¹. *Ammi Trachyspermum* also has antimicrobial activity on standard strains of infection and food poisoning in vitro. It is because of components such as Thymol, Cymene, Pinene- π , γ -Trepinene and Sabinene¹¹. Pandi and etal have shown effect of Antibacterial of *Ammi Trachyspermum* extract on bacteria such as *Streptococcus Staphylococcus 'haemolyticus'* *Corynebacterium diphtheria 'aureus Escherichia, Proteus vulgaris 'Klebsiella coli'*¹².

Anethum graveolens

It is a Mediterranean plant that grows as a vegetable in all parts of the world. *Anethum graveolens* has long been used as a medicinal plant to treat headaches, vascular diseases. D-Caron and D-Flandron are the most important chemical compounds in the vegetative body and Karun and Limonen are the most important chemical compounds in the seeds of this plant. Karun and limonene have analgesic, anti-inflammatory and antioxidant properties that stabilize liver cell membranes and reduce the release of enzymes into the blood. *Anethum graveolens* seed extract has a protective effect on gastric mucosa due to its flavonoid compounds. *Anethum graveolens* essence also has an antimicrobial

effect which is due to the presence of Karun substance. This plant increases breast milk and the resulting milk has anti-colic properties in infants. It is not recommended for hot-tempered people and pregnant women. Seed extract has a protective effect on gastric mucosa due to its flavonoid compounds. Anethum graveolens essence also has an antimicrobial effect which is due to the presence of Karun substance. This plant increases breast milk and the resulting milk has anti-colic properties in infants. It is not recommended for hot-tempered people and pregnant women¹³.

Honey

Honey is the main and most widespread product of bees which is prepared from the digestive processing of nectar flowered and stored in honeycomb cells. In general, honey is marketed because it is nutritious. In ancient times it was used as a topical treatment, while in recent years it has been introduced as an adjunct and clinical medicine¹⁴.

Due to pollen grains and ascorbic acid, Vitamin B is present in small amounts in honey¹⁵. On the other hand, honey has anti-inflammatory activity (flavonoid content, etc.) inhibits the release of pro-inflammatory agents and has activity. It is an antioxidant that phenols are the most important antioxidant elements of honey and the composition of phenols is very different based on plant origin. Honey is expected to show a wide range of antioxidant power¹⁶.

Laboratory evaluations also show that a wide range of pathogenic microorganisms effective in wound infection are inhibited by honey¹⁷. Causes of antibacterial activity of honey are: 1. Its weight is water. 2. Acidity: The pH of honey varies between 3.2 to 4.5 which is a deterrent to many animal pathogens. 3. Hydrogen peroxide: An enzyme called glucose oxidase enters the nectar from the pharyngeal glands of bees, which by acting on glucose leads to the production of glucuronic acid and hydrogen peroxide¹⁸.

One of the important reasons for selecting these plants in this study is their frequency due to their naiveness and easy access to these plant resources and the fact that no study has been done on the composition of these plants to improve coronary symptoms¹⁹. Their medicinal properties are mentioned Jorjani medical book.

Methods

Double-blind randomized clinical trial with a control group with a sample size of 60 patients in patients with a diagnosis of Quid-19 referred to the Tehran Punak

Health Center from the beginning of January 2016 were assessed. Witnesses were divided. To prepare the target drug, 500 g of thyme powder with 500 g of Ajwain powder, 500 g of Anethum graveolens powder and 4.5 kg of honey were combined and the ingredients were carefully mixed and gently stirred to create a uniform composition and the product The final is an oral concoction that was stored in suitable 150 g cans and packaged as medicine. To prepare the placebo, 3000 grams of starch powder with 3000 grams of sugar syrup were mixed well and with natural and authorized color, it was completely similar to the main medicine and then it was packed in 150-gram packages. In addition to standard treatment, patients in the case group received 5 g of the target drug every 6 hours, and the control group received standard treatments with placebo (5 g every 6 hours). The diagnostic test was evaluated on the first and last day of the study, and the following symptoms were evaluated: fever, diarrhea, nausea, body aches, fatigue, loss of appetite, shortness of breath, cough, ESR, CRP leukopenia, respiratory rate, CT Chest scan. The results were assessed using SPSS software.

Findings

There was no significant difference in the baseline data of sex, age, height, weight, past medical history, initial symptoms, disease diagnosis, and medication between the patients diagnosed with and suspected to have COVID-19 among two groups ($P > 0.05$).

The following were reported by examining the clinical symptoms in patients: fever ($p < 0.292$), diarrhea ($p < 0.035$), nausea ($p < 0.592$), body aches ($p < 0.284$), fatigue ($p < 0.118$), loss of appetite ($p < 0.754$), shortness of breath ($p < 0.037$), cough ($p < 0.602$), high ESR ($p < 0.787$), CRP positive ($p < 0.069$), leukopenia ($p < 0.774$), number of breaths per minute ($p < 0.292$), Abnormal CT ($p < 0.598$).

Conclusion

In conclusion, the effect of Thyme, Anethum graveolens, Ajwain and Honey in the treatment of coronavirus (Covid 19) referred to Punak Health Center in Tehran has been investigated. Fever, diarrhea, shortness of breath and body aches and fatigue in people who used the herbal composition (Thyme, Anethum graveolens, Ajwain and Honey) had a significant reduction on day 14. Also, from the perspective of traditional medicine, people in old age (from the age of 60 to the end of life) when the main heat and humidity in this period has reached its minimum due to analysis during the previous period of life (2) their temperament is colder and due to poor digestion, Abnormal and unnaturally deadly moisture is produced

between the body parts of this group of people (3) and the temperament in one of the four age periods of those who have equal warmth and cold in them and have high humidity, i.e. hot and cold temperament, moisture prevails, such people are often early. They also become infected²⁰. Such people are more likely to develop infectious fevers in the first place²¹. Statistics also show that the incidence of coronary heart disease is higher in people with a cold temper, so that in Italy, until May 21, in the age range of 60-89 years, men died 63.9% of the total cases. Since the nature of the herbal composition used is hot and dry, combined with honey can be effective in reducing the cold of cold organs. On the other hand, the results of a study conducted by Shahabi et al. Show that the tendency of cytokine pattern in cold temperament is less towards Th2 than in hot temperament, which is consistent with the warm and dry nature of the studied plant composition.²²

Clinical signs	Group	Day 14	P-value
Fever	Placebo	14 16	0.292
	Medicine	10 20	
Diarrhea	Placebo	16 14	0.035
	Medicine	8 22	
Nausea	Placebo	18 12	0.592
	Medicine	20 10	
Body pain	Placebo	13 17	0.284
	Medicine	9 21	
Fatigue	Placebo	16 14	0.118
	Medicine	10 20	
Loss of appetite	Placebo	24 6	0.754
	Medicine	23 7	
Shortness of breath	Placebo	17 13	0.037
	Medicine	9 21	
Cough	Placebo	18 12	0.602
	Medicine	16 14	
ESR high	Placebo	19 11	0.787
	Medicine	20 10	
CRP positive	Placebo	17 13	0.069
	Medicine	10 20	
Leukopenia	Placebo	8 22	0.774
	Medicine	9 21	
Number of breaths per minute	Placebo	14 16	0.292
	Medicine	10 20	
CT abnormal	Placebo	19 11	0.598
	Medicine	17 13	

On the other hand, Thyme, Anethum graveolens, Ajwain and Honey have antioxidant and anti-inflammatory effects, analgesics and are effective in treating infections²³. Involvement of cells is due to the activity of the innate immune system and is acquired (the virus is evident in patients with coronavirus, so the reduction in fever and diarrhea in patients undergoing treatment can probably be attributed to this. On the other hand, in a study, a significant inhibitory effect of thyme on herpes simplex virus type one (HSV-1) was reported (60) which is consistent with the present study. Ajwain is also known as thymol (42-41%), gamma-terpene and paracetamol for the treatment of infections, bloating, headache and wound healing fungal infections, bacterial infections and as an antihistamine²⁴. Two polyphenolic compounds called Rosmarinus and caffeic acid have been identified as potent antioxidants for Ajwain²⁵. H et al. demonstrated the antibacterial effect of Ajwain essence on Staphylococcus aureus, Escherichia coli, Streptococcus hemolyticus, Corynebacterium diphtheria, Proteus vulgaris and Klebsiella by agar and halo propagation. The results of in vitro studies showed that the extract extracted from the medicinal plant Xenia has antimicrobial activity against Staphylococcus aureus, Bacillus cereus and Escherichia coli which can be used as a suitable alternative in the production of new herbal medicines with minimal side effects due to non-chemical and to be used against the above bacteria²⁶.

The analgesic, anti-inflammatory, antimicrobial and antioxidant properties that stabilize liver cell membranes and reduce the release of enzymes into the blood have also been attributed to the most important chemical compounds in Anethum graveolens seeds, Karun and Limonin. On the other hand, phenols in honey which are the most important antioxidant elements of honey (flavonoid content, etc.) play a role in anti-inflammatory activity and inhibit the release of pro-inflammatory agents. On the other hand, laboratory evaluations show that a wide range of Pathogenic microorganisms are effective in inhibiting wound infection by honey²⁷. It varies from 3.5 to 4.5 which is inhibitory for many animal pathogens.

On the other hand, thymol in women due to its antiseptic effect, can appear in intestinal diseases or its disinfection in spontaneous poisoning due to intestinal infection, dysentery and cholera with a beneficial effect. Cholera is consistent with this issue. Anethum graveolens seed extract also has a protective effect on the gastric mucosa due to its flavonoid compounds which may have been effective in improving the diarrhea of a person with coronary heart disease. In one study, when thyme oil was fed to a rabbit or injected into its muscles, it lowered blood pressure in the arteries while accelerating regular heart contraction, and at higher doses increased respiration rate. When 5% salt solution was injected into the cat's veins as an emulsion, thyme oil increased respiration volume and decreased blood pressure²⁸.

In the present study, improvement of dyspnea was reported in patients consuming the plant composition which can be attributed to the effect of thyme on bronchitis, pertussis and inflammation of the mucous membrane secreted from the upper respiratory tract and can be attributed to the presence of thymol in the plant. In 2012, Taherian et al. stated that the effect of hanging pain relief is due to the presence of phenolic monoterpenes of thymol and carvacrol in the plant.

The thyme includes carvacrol, tannins, Flonoid, saponins and bitter substances is also an integral part of these flavonoids inhibitor of cyclooxygenase inhibiting the production of prostaglandins in the body and causing pain and mediators in the body²⁹. Ajwain also contains several compounds such as monoterpenes, tranoidohalophalanoids which phalloidins inhibit phospholipase, lipoxins and cyclooxygenase which

directly affect the synthesis of prostaglandins and have analgesic effects. The reduction of coronary muscle pain due to corona can be attributed to these compounds. Anethum graveolens is also an enhancer of breast milk due to (its chemical composition of Karun and D-Flanderion is a vegetative body) and thyme is appetizing. It is present in small amounts in honey which may be due to the reduction of fatigue in patients consuming the plant composition. Today, due to the effects of chemical abuse and antibiotic resistance due to improper use of antibiotics, replacement of these substances with natural substances such as essences and plant extracts including plants studied in this study to control and prevent Corona is recommended.

Interests conflict

The authors declare no conflict of interest.

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