



Prevention of Communicable Diseases, exercise, Diet, and medicine especially in Influenza-A Review Article

*Dr. Sadequa Parveen Abul Irfan Ansari ¹, Dr. Shaikh Zameer Anjum Shabbir Ahmed ²,

Dr. Zikra Naaz Ateeque Ahmad ³, Dr. Afshan Sayd ⁴

*¹ Lecturer, Dept. of Tahaffuzi wa samaji Tib, Yunus Fazlani Medical Collage and Hospital,

Kunjkheda, Aurangabad

² Associate Professor, Dept. of Tahaffuzi wa samaji Tib, Al-Ameen Unani Medical Collage and

Hospital, Malegaon

³ Associate Professor, Dept. of Ilmul Advia, Al-Ameen Unani Medical Collage and Hospital, Malegaon

⁴ Lecturer, Dept. of Ilaj bid Tadbeer, Yunus Fazlani Medical Collage and Hospital, Kunjkheda, Aurangabad.

Abstract:

Complementary and alternative therapies for colds and flu were commonly used by ancient people. They were used to cure or prevent respiratory viral infections and many nations obtained traditional experience in such remedies. The World Health Organization estimates a total of 25 to 50 million cases each year resulting in 150 000 hospitalizations and 30 000 to 40 000 deaths in the United States alone, due to epidemic influenza. During pandemics, the mortality and morbidity may be much higher, imposing tremendous pressure on health system. Respiratory viruses are a major cause of influenza-like illness symptoms in children and adults, leading to substantial morbidity and mortality each year. Currently employed influenza vaccines are only effective when the vaccine strains match the epidemic strains antigenically. Therefore, seasonal influenza vaccines have to be updated almost annually. In addition, seasonal influenza vaccines fail to afford protection against antigenically distinct pandemic influenza viruses. The Unani system of medicine is one of the traditional systems of medicine practised since centuries in many parts of the world including India. In Unani medicine, *nazla-e-wabāi* is referred as influenza for which a decoction containing Behidana, Unnab and Sapistan are recommended to relieve the clinical features of *nazla-e-wabāi* like epidemics. There are also many drugs and diet which are used in treatment of influenza like illness in the light of ancient Unani classics and recent scientific studies.

Keywords. Influenza, Epidemic of Influenza, Symptom and herbal drugs for Influenza.

1. Concept of Amrāz-e-Wabāi (Epidemic diseases) in Unani system of medicine

According to Unani theory, sometimes contamination or putrefaction occurs in the air resulting in wabā' which is the standardized term for epidemic. Ibn Sina (980–1037 AD) advocates that the fever may occur in masses due to contamination of water and air with ajsām khabītha (pathogenic organisms).¹⁰ The contamination of air is caused when the bodies died during epidemic are not disposed properly. The putrid fruits, vegetables, accumulated water at one place; dead animals etc may also contaminate the air. Such contamination may cause infection which is appeared with body ache, sweating, halitosis, bilious vomiting and diarrhoea, changes in urine etc. Ibn Khatima (1369 AD) says the human body is surrounded by minute bodies which when entered in the human body may cause disease. The history is evident that several contagious diseases such as meningitis, leprosy, tuberculosis, small pox, rabies were common in olden days. Hippocrates (460–370 BC) depicts the symptomatology of certain contagious diseases which are currently referred as influenza, mumps, diphtheria, tuberculosis, malaria etc. Galen (129–200 AD) has given miasma theory of transmission of infectious diseases. According to this theory, few infectious diseases such as plague, cholera and chlamydia transmits through a toxic form of unpleasant air which capitulate hazardous vapours or toxic elements that penetrate in the body via inhalation or pores of skin.¹⁴ First time, the complete clinical picture of small pox and measles was described by an Unani physician, Zakaria Razi (854–925 AD) in his treatise Kitab fi al-Judri al-Hasbah (De Variolis et Morbiliis/ Book on Small Pox and Measles). He stated that “when zoonotic diseases are epidemic, the human being should avoid being in close contact with animals”. At another place, he quotes that “the droplets inhalation is more contagious and an infected person should avoid visiting to the houses of others”. According to Razi, rain during the hot weather is more prone to develop epidemic diseases. He has also affirmed that the infectious diseases may be more prevalent when the person moves from non-contaminated to contaminated zone. Ibn Zohar (1126–1198 AD) has asserted that he observed few patients who died in spite of having mild fever and concurrently some recovered completely when their place of stay and diets were modified. He further avows that the normal function of heart may be disturbed due to inhalation of contaminated air, and the patient is died because of heart failure. During epidemics, the severity of the disease is assessed by respiratory distress and foul smell of breath. The detail clinical features of epidemic diseases viz. redness in eye, hotness in the chest, polyuria, increased viscosity of urine, loss of appetite, ulcers around the mouth etc have been discussed in Unani literature. Apart from detailed description of epidemic diseases in general, the classical Unani literature has also described certain specific diseases which have been categorized as epidemic in earlier days such as hasba (measles), judariyya (small pox), juzam (leprosy) etc, nevertheless ancient Unani scientists were completely cognisant about the existence of microbial organisms in the environment. Though, the germ theory was absolutely understood after the invention of microscope in 1683 AD.

2. Concept of Nazla-i-Wabāi (Influenza) in Unani System of Medicine.

In unani medicine, two terminologies i.e. zukām and nazlā are being used for common cold and influenza like conditions. It is further explained that in zukām the matter of brain is dripping down towards nose whereas in nazlā the morbid matters drip towards throat. Razi (854–925 AD) opined that bare head and exposure to cold air of north direction causes irritation, itching in the nose

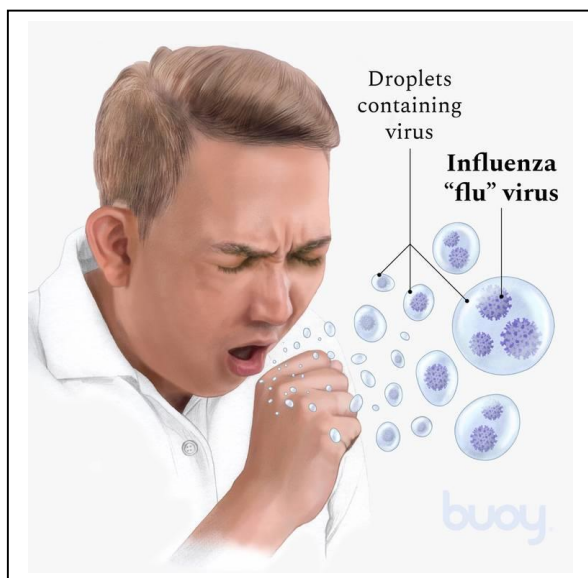


Fig. 1 Influenza- A common Viral Droplet infection sprayed worldwide

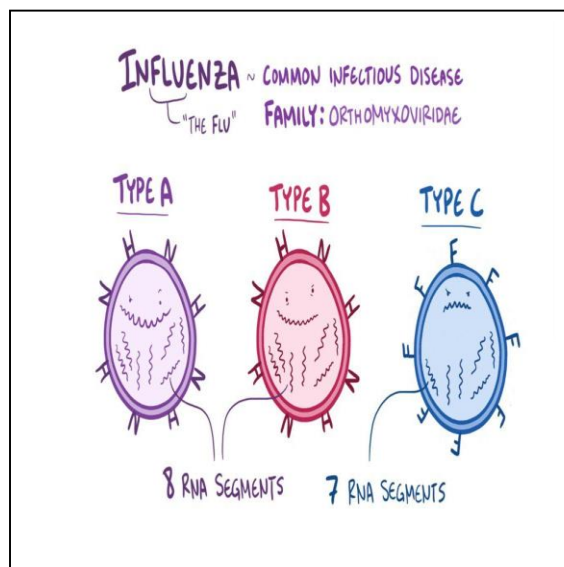


Fig. 2 Viruses of Influenza Type A, B, and C.

And sneezing which results zukām. Nazlā va Zukām may be associated with pharyngitis, sore throat, conjunctivitis, headache, hoarseness of voice, cough, fever, gastric pain, diarrhoea etc. According to Unani medicine, the etiological factors of this disease are abrupt change of weather, toxic substances, excessive hot or cold climate, excessive bathing with cold water, extreme physical exertion, stress, su-i-mizāj (deranged temperament) etc. Hakim Ajmal Khan (1868–1927 AD) states that sometimes plague, cholera and other epidemic diseases spread everywhere and responsible for several deaths. Similarly, nazlā and zukām also transmits epidemically.

In conventional medicine, influenza is classified as zoonotic disease of viral origin and naturally found in birds and mammals. The history suggests that this disease exist since ancient time. Many species of animals are considered as domestic animals and lived along with human being. The influenza is usually transmitted through animals mostly in crowded places. The clear clinical explanation of this disease was first described by Caus in 1551. He termed the condition of influenza as “sweating disease” manifested with fever, headache and body ache which may cause rapid death in some patients.

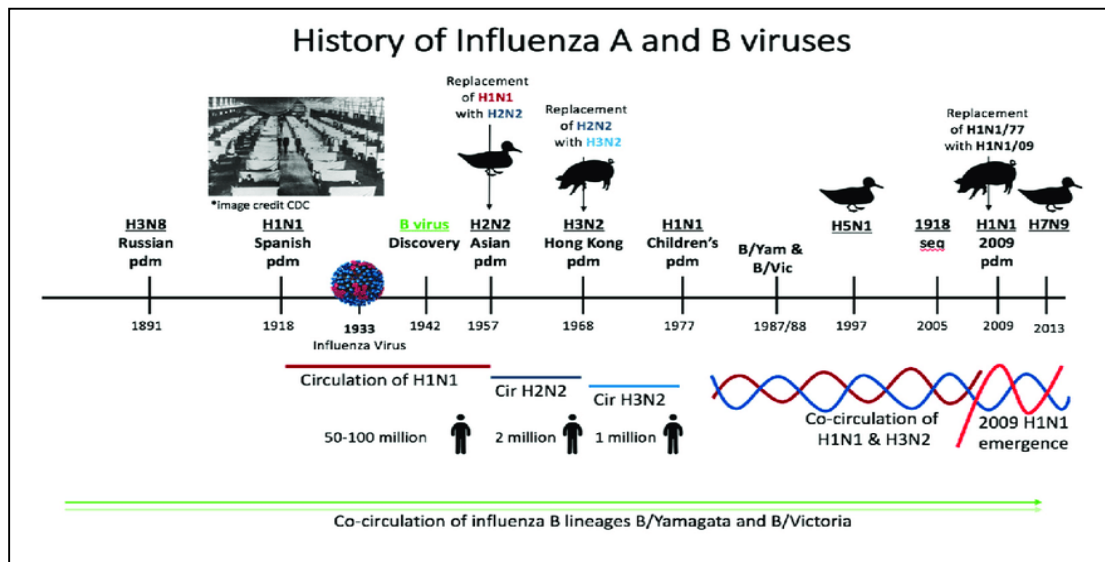


Fig. 3 History of Influenza. Type A and B Viruses.

The term “una influenza” which means “celestial influence” was first used by villaini and segui. Influenza virus causes significant morbidity and mortality in human population every year. The pandemic of influenza has been reported in 1918, 1957 and 2009. In 1918 influenza pandemic, approximately 50-100 million people were died whereas in 2009 H1N1 influenza pandemic nearly 100,000 persons were died. Approximately 18 hemagglutinin (HA) and neuraminidase (NA) subtypes of influenza virus have been identified till date but only three subtypes such as H1N1, H2N2 and H3N2 causes pandemics in human being in the past. The pandemic of influenza A virus is due to antigenic shift of the virus resulting with the appearance of H or N antigens. The influenza virus produces an acute febrile illness along with body ache, headache and cough; and often encountered respiratory complications. This disease is transmitted through air borne droplets inhalation. Most of the uncomplicated patients of influenza require only symptomatic treatment. The antiviral drugs such as amantadine and rimantadine are currently used for treatment as well as prophylaxis purposes against influenza A.

3. Defination of Influenza.

Influenza is a viral infection that attacks your respiratory system — your nose, throat and lungs. Influenza is commonly called the flu, but it's not the same as stomach "flu" viruses that cause diarrhea and vomiting. For most people, the flu resolves on its own. But sometimes, influenza and its complications can be deadly. People at higher risk of developing flu complications include:

- A. Young children under age 5, and especially those under 6 months
- B. Adults older than age 65
- C. Residents of nursing homes and other long-term care facilities
- D. Pregnant women and women up to two weeks after giving birth

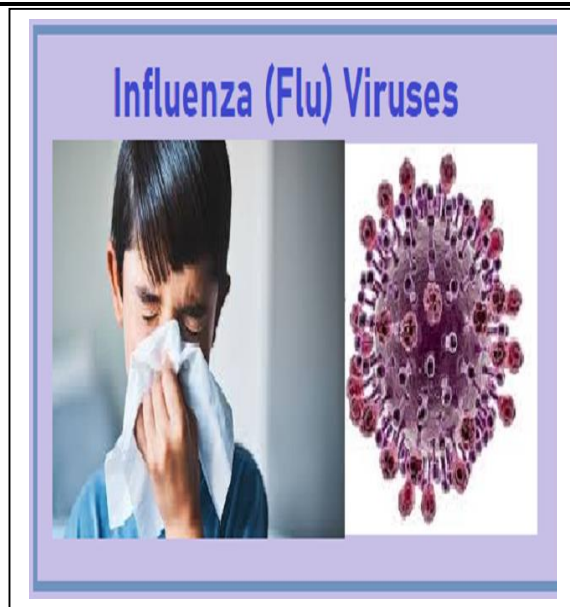


Fig. 4 Influenza- A common Viral Droplet infection

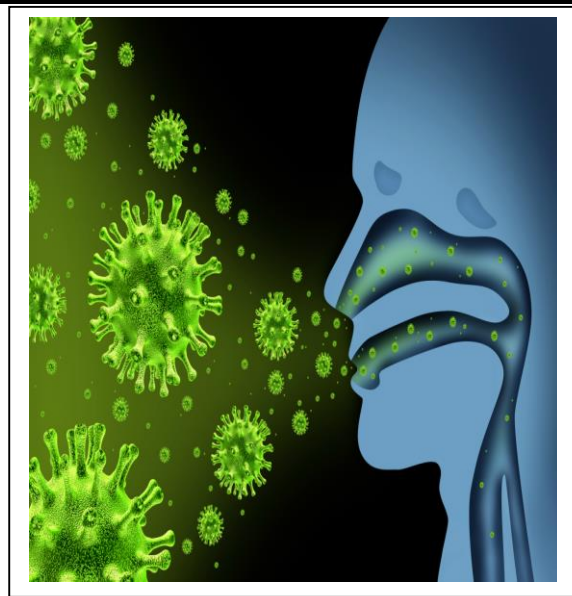


Fig. 5 Influenza- attacks your respiratory system

E. People with weakened immune systems

F. Native Americans

G. People who have chronic illnesses, such as asthma, heart disease, kidney disease, liver disease and diabetes

H. People who are very obese, with a body mass index (BMI) of 40 or higher

Though the annual influenza vaccine isn't 100% effective, it's still your best defense against the flu.

4. Symptoms of Influenza.

At first, the flu may seem like a common cold with a runny nose, sneezing and sore throat. But colds usually develop slowly, whereas the flu tends to come on suddenly. And although a cold can be a bother, you usually feel much worse with the flu. Common signs and symptoms of the flu include:

- A. Fever
- B. Aching muscles
- C. Chills and sweats
- D. Headache
- E. Dry, persistent cough
- F. Shortness of breath
- G. Tiredness and weakness
- H. Runny or stuffy nose



Fig. 6 Influenza- Sign and symptoms in kids



Fig. 7 Influenza- H1N1 Protect yourself

- I. Sore throat
- J. Eye pain
- K. Vomiting and diarrhea, but this is more common in children than adults

Most people who get the flu can treat themselves at home and often don't need to see a doctor. If you have flu symptoms and are at risk of complications, see your doctor right away. Taking antiviral drugs may reduce the length of your illness and help prevent more-serious problems. If you have emergency signs and symptoms of the flu, get medical care right away. For adults, emergency signs and symptoms can include:

- A. Difficulty breathing or shortness of breath
- B. Chest pain
- C. Ongoing dizziness
- D. Seizures
- E. Worsening of existing medical conditions
- F. Severe weakness or muscle pain

Emergency signs and symptoms in children can include:

- A. Difficulty breathing
- B. Blue lips
- C. Chest pain
- D. Dehydration
- E. Severe muscle pain
- F. Seizures
- G. Worsening of existing medical conditions

5. Causes of Influenza.

Influenza viruses travel through the air in droplets when someone with the infection coughs, sneezes or talks. You can inhale the droplets directly, or you can pick up the germs from an object such as a telephone or computer keyboard and then transfer them to your eyes, nose or mouth. People with the virus are likely contagious from about a day before symptoms appear until about five days after they start. Children and people with weakened immune systems may be contagious for a slightly longer time. Influenza viruses are constantly changing, with new strains appearing regularly. If you've had influenza in the past, your body has already made antibodies to fight that specific strain of the virus. If future influenza viruses are similar to those you've encountered before, either by having the disease or by getting vaccinated, those antibodies may prevent infection or lessen its severity. But antibody levels may decline over time. Also, antibodies against influenza viruses you've encountered in the past may not protect you from new influenza strains that can be very different viruses from what you had before.

6. Risk factors of Influenza.

Factors that may increase your risk of developing the flu or its complications include:

- A. Age.** Seasonal influenza tends to target children 6 months to 5 years old, and adults 65 years old or older.
- B. Living or working conditions.** People who live or work in facilities with many other residents, such as nursing homes or military barracks, are more likely to develop the flu. People who are staying in the hospital also are at higher risk.
- C. Weakened immune system.** Cancer treatments, anti-rejection drugs, long-term use of steroids, organ transplant, blood cancer or HIV/AIDS can weaken the immune system. This can make it easier to catch the flu and may also increase the risk of developing complications.
- D. Chronic illnesses.** Chronic conditions, including lung diseases such as asthma, diabetes, heart disease, nervous system diseases, metabolic disorders, an airway abnormality, and kidney, liver or blood disease, may increase the risk of influenza complications.
- E. Race.** Native American people may have an increased risk of influenza complications.
- F. Aspirin use under age 19.** People who are younger than 19 years of age and receiving long-term aspirin therapy are at risk of developing Reye's syndrome if infected with influenza.
- G. Pregnancy.** Pregnant women are more likely to develop influenza complications, particularly in the second and third trimesters. Women are more likely to develop influenza-related complications up to two weeks after delivering their babies.
- H. Obesity.** People with a body mass index (BMI) of 40 or more have an increased risk of flu complications.

7. Complications of Influenza.

If you're young and healthy, the flu usually isn't serious. Although you may feel miserable while you have it, the flu usually goes away in a week or two with no lasting effects. But children and adults at high risk may develop complications that may include:

- A. Pneumonia
- B. Bronchitis
- C. Asthma flare-ups
- D. Heart problems
- E. Ear infections
- F. Acute respiratory distress syndrome

Pneumonia is one of the most serious complications. For older adults and people with a chronic illness, pneumonia can be deadly.

8. Prevention of Influenza.

The Centers for Disease Control and Prevention (CDC) recommends annual flu vaccination for everyone age 6 months or older. The flu vaccine can reduce your risk of the flu and its severity and lower the risk of having serious illness from the flu and needing to stay in the hospital. This year's seasonal flu vaccine provides protection from the four influenza viruses that are expected to be the most common during the year's flu season. This year, the vaccine will be available as an injection and as a nasal spray. The nasal spray isn't recommended for some groups, such as:

- Children under 2
- Adults 50 and older
- Pregnant women
- Children between 2 and 17 years old who are taking aspirin or a salicylate-containing medication
- People with weakened immune systems
- Kids 2 to 4 years old who have had asthma or wheezing in the past 12 months

If you have an egg allergy, you can still get a flu vaccine.

9. Dietary supplement for Influenza.

There is scientific evidence about the supportive effects of several complementary medicines for colds. Oral administration of zinc may reduce the length and severity of common cold. For majority of people taking vitamin C supplements on a regular basis only slightly reduces the length and severity of colds and does not reduce the number of colds that they catch. However, vitamin C supplement for prevention of the common cold, which they concluded from their systematic review study. A study carried out included 14 randomized controlled trials comparing probiotics with placebo to prevent acute upper respiratory tract infections. It revealed that probiotics enhance immune system against influenza virus. Probiotics were found better than placebo in reducing the number of participants experiencing episodes of acute upper respiratory tract infections, the rate of episodes of acute upper respiratory tract infection and reducing antibiotic use. Bifidobacterium, one of the major components of intestinal microflora, showed anti-influenza virus potential as a probiotic, partly through enhancement of innate immunity by

modulation of the intestinal immune system. In experimentally infected mice with influenza, oral administration of *Bifidobacterium longum* improved clinical symptoms, reduced mortality, suppressed inflammation in the lower respiratory tract, and decreased virus titers, cell death, and pro-inflammatory cytokines. The anti-influenza virus mechanism of *Bifidobacterium* involves innate immunity through significant increases in natural killer cell activities in the lungs and spleen and a significant increase in pulmonary gene expression of natural killer cell activators such as interferon- γ , interleukin-2, interleukin-12, and interleukin-18. Therefore, *Bifidobacterium longum* as a probiotic may be used as a prophylactic agent in the management of influenza epidemic. In a mouse model infected intranasally with influenza virus (H1N1), a live and nonlive *Lactobacillus acidophilus* strain L-92 also showed protective effects against influenza virus infection by enhancement of natural killer cell activity. Continual intake of a probiotic drink containing *Lactobacillus brevis* by schoolchildren also demonstrated a reduction in the incidence of influenza. The favorable effect was more remarkable in children who were not given influenza vaccine. In children aged 3 to 5 years with cold and influenza-like symptoms, daily dietary probiotic supplementation for 6 months was found to be an effective way to reduce fever, rhinorrhea, cough incidence, duration, and frequency of antibiotic prescription. Oral administration of lactobacilli might protect against influenza virus infection by stimulating local and systemic immune responses that enhancing gut and respiratory immune responses. Oral intake of lactobacilli or a probiotic fermented dairy drink, consumed several weeks before or after influenza vaccination, was found to boost the levels of influenza-specific IgA and IgG antibodies. Many studies on mice revealed that oral administration of different strains of lactobacilli provided protection against influenza virus infection by the downregulation of viral replication through the induction of antiviral genes expression, or modulating host innate immunity. Daily consumption of a fermented milk drink that contains lactobacilli had no statistically or clinically significant effect on the protection against respiratory symptoms. Wang et al found that feeding with high doses of zinc oxide and *Enterococcus faecium* (as a probiotic) could beneficially influence humoral immune responses after vaccination and recovery from Swine influenza viruses infection, but not affect virus shedding and lung pathology. Dietary supplementation containing selenium supply has been proposed to confer health benefits by improving the immune response to viral infections, especially with respect to influenza A virus, and response to influenza vaccine. A study in Japan investigated the favorable effects Mekabu fucoidan, a sulfated polysaccharide extracted from seaweed, concerning the immune response to influenza vaccine. The study revealed that Mekabu fucoidan intake increased antibody production after vaccination, perhaps preventing influenza epidemics. There was controversy in regard to vitamin D supplementation for prevention of respiratory viruses. Some studies found beneficial effects of vitamin D intake for influenza prevention, whereas others concluded no favorable effects of such supplement. A study included 116 participants that compared a yeast-based product with placebo to determine effects on the incidence and duration of cold and flu-like symptoms in healthy subjects recently vaccinated for seasonal influenza. The study demonstrated that the yeast-based product daily supplementation for 12 weeks produced remarkable fewer respiratory symptoms and significantly shorter duration of illness when compared with subjects taking a placebo. Supplementation with an encapsulated aged garlic extract for 90 days had shown reduction in severity of symptoms, the number of days of illness,

and incidences of colds and flu. It had been suggested that supplementation of the diet with aged garlic extract might enhance immune cell function. Lactoferrin is a protein found in cow milk and human milk. Colostrum, the first milk produced after childbirth, contains high levels of lactoferrin, about 7 times the amount found in milk produced later on.

10. Dietary Supplements for Respiratory Viruses.

Supplement	Action	Supportive Effects on Viral Infection
Vitamin C	Slight reduction in the length and severity of colds	Common cold treatment and prevention
Probiotics	Enhancement of immune system	Prevention and treatment of acute upper respiratory tract infections
Bifidobacterium	Enhancement of innate immunity by increasing natural killer cell activities. Inflammation suppression. Reduction in virus titers, cell death, and pro-inflammatory cytokines	Prevention and treatment of influenza
* <i>Lactobacillus acidophilus</i>	Enhancement of NK cell activity	Influenza virus (H1N1)
<i>Lactobacillus brevis</i>	—	Influenza prevention
Lactobacilli	Enhancement of gut and respiratory immune responses, increasing of influenza-specific IgA and IgG antibodies, modulating host innate immunity	Influenza prevention
* <i>Enterococcus faecium</i> & Zinc Oxide	Enhancement of humoral immune responses	Swine influenza treatment
Selenium	Improvement of the immune response	Influenza A prevention
Mekabu fucoidan (seaweed polysaccharide)	Increasing antibody production	Influenza prevention
Yeast-based product	—	Influenza and common cold prevention
Garlic extract	Enhancement of immune cell function	Influenza and common cold prevention
Lactoferrin	Inhibition of viral attachment to the target cells, enhancement of natural killer cell activity and cytokine responses	Prevention and treatment of common cold and influenza

11. Herbal Prospects of Treatment of Influenza.

In Unani system emphasizes on the immunity of people living in regions affected by viruses. This branch of medicine promotes the intake of special herbs or decoctions to increase the immunity level of the people. Unani remedies comprise pure natural herbs which are effective in preventing swine flu. Moreover, the herbs are used to relieve swine flu symptoms, and boost the immune system against the H1N1 virus. Unani treatment for swine flu involves the use of following herbs :

A. Holy Basil (*Ocimum sanctum*)

Holy basil (*Ocimum sanctum*), called Tulsi in India, are being used in countries worldwide to help protect against swine flu. The main chemical constituents isolated from leaves are Ursolic acid, apigenin and luteolin. Several formulations are available in the market. It enhances the immunity and metabolic functions as well as in the management of respiratory problems. Basil not only keeps the nasty swine flu virus at bay, but it also assists in the fast recovery of an affected person. They claim that basil improves the body's overall defense mechanism, thereby increasing its ability to fight viral diseases. For the control and prevention of swine flu, basil must be consumed in the fresh form. The paste or juice of a minimum of 25 leaves (medium size) should be consumed twice a day. Moreover, it should be had on an empty stomach. Basil is safe, with no side effects and is great to prevent swine flu from spreading like wildfire.

B. Zanjabeel-Ginger (*Zingiber officinalis*)

Zanjabeel is one of the natural remedies for swine flu prevention. It boosts the body's immunity level and helps protect the body. The characteristic odor and flavor of ginger root is caused by a mixture of zingerone, shogaols, and gingerols, volatile oils that comprise of about one to three percent of the weight of fresh ginger. It boosts the body's immunity level and helps protect the body. Ginger has been known to fight cold, fever and flu conditions, and is also good to reduce inflammation. Ginger root, which has anti-nausea and anti-inflammatory effects and also aids digestion.



Fig. 8 Household Remedies for Influenza



Fig. 9 Herbal drugs to control Influenza

C. Elderberry (*Sambucus nigra*)

Elderberry (*Sambucus nigra*), an herb with anti-viral properties is a wonderful remedy for flu symptoms when taken in the form of tincture, cordial or syrup to fight off the flu virus. It makes itself even more useful since these remedies can be made from dry or fresh berries. Chemical constituents are: Flavonoids - Natural antioxidants that work to protect the body's cells from the potential damage caused by free radicals. Anthocyanins - Remarkable ability to stimulate the body's immune system by increasing the production of cytokines. It shows the anti-flu activity by binding with viruses before penetrating into the walls of cells, thus prevents the spreading of viruses.

D. Amla-Gooseberry (*Embelica officinalis*)

The Indian gooseberry (*Phyllanthus emblica*, syn. *Embelica officinalis*) is a deciduous tree of the Euphorbiaceae family. It is also known as Amlaka (Sanskrit) and Amla (Hindi). All parts of the plant, including the fruit, seed, leaves, root, bark, and flowers, are used in various Unani Medicine herbal preparations. *Embelica officinalis* fruit is sour and astringent in taste, with sweet, bitter, and pungent secondary tastes. *Embelica officinalis* is one of the best fruits known to boost the immune system of the body. Since gooseberry is source of Vitamin C, it helps raise the body's resistance to flu viruses. Methanol extract of the fruit of *Embelica officinalis* has potent inhibitory action against human immunodeficiency virus-1 reverse transcriptase.

E. Japanese Wasabi (*Wasabia japonica*)

It has been found that the summer leaves of Japanese wasabi (*Wasabia japonica*) shows anti-influenza virus activity while winter leaves and rhizomes are generally used as a spice and for processed foods such as pickled wasabi. Since the leaf area of summer leaves is far greater than that of winter leaves, they are not used for food, and are discarded. Thus, on investigation antiinfluenza virus activity was found in these summer leaves as a new function. Seventy percent ethanol extracts of leaves harvested in July exhibited a high replication inhibition rate.

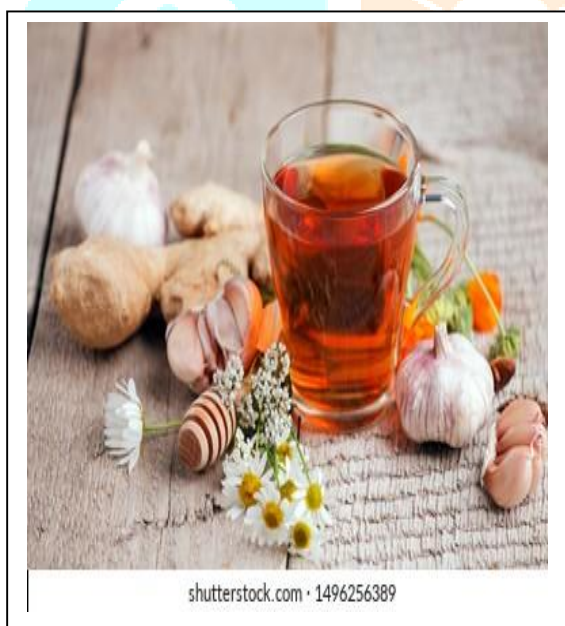


Fig. 10 Ginger, Garlic, Turmeric used in Treatment of Influenza



Fig. 11 Sharbate Anar used in treatments of Influenza

F. Garlic (*Allium sativum*)

Allium sativum, also known as Lahsan (Hindi) and Garlic (English), belongs to family Alliaceae. It has a characteristic pungent, spicy flavor. *Allium sativum* on the other hand is a powerful natural antibiotic. Garlic has natural antiviral, antibacterial, and immune-boosting properties. *A. sativum* has been used for hundreds of years to treat fungal, parasitic, and viral infections, and has anti-inflammatory properties that show promise for prevention of cardiovascular disease.

G. Kafoor-Camphor and Eucalyptus Oil

Camphor has great ability to keep different air borne diseases under control. It is available in the form of camphor oil, which can be burnt in the room or office all the time. Inhaling the steam of Eucalyptus oil is also good. Just add a few drops of Eucalyptus oil into lukewarm water and inhale the steam. This helps to clear the nasal track and promotes the health of the respiratory tract. **Haldi-Tumeric (Curcuma longa)**

Curcuma longa is also known as turmeric. This compound is highly used in Indian, and Chinese medicine to address many health concerns. It helps to stabilize the body and is a strong antioxidant with anti-inflammatory properties as well. It has also been found to guard against free radical damage, protects the liver from toxic compounds, prevents blood platelet aggregation, stimulates the gallbladder, detoxifies the body and boosts the immune system. Curcumin in Turmeric is responsible for these effects.

H. Neem (Azadirachta indica)

Azadirachta indica (Neem in Hindi) is a tree in the mahogany family Meliaceae. Three bitter compounds that have been extracted from neem oil are nimbin, nimbinin, and nimbidin. All parts of the plant yield β - sitosterol. The antiviral activity of azadirachtin, nimbin, and nimbidin has been reported. Azadirachta indica extracts possess antidiabetic, antibacterial, and antiviral properties. The tree stem, root, and bark possess astringent and tonic properties.

I. Ajwain (Trachyspermum ammi)

Trachyspermum ammi called as Ajwain in Hindi and Bishops weed in English, is a member of the family Apiaceae. The principal constituents of the essential oil from the fruit are the phenols, mainly thymol and some carvacrol. The oil possess p -cymene, g-terpinene, α - and β -pinenes, and dipentene, minute amounts of camphene, myrcene, and careen. The essential oil is a strong antiseptic, antispasmodic, aromatic, bitter, diaphoretic, digestive, diuretic, expectorant, and tonic. It is used internally in the treatment of colds, coughs, influenza, and asthma. The essential oil is also added to various cough medicines as well.

12. Treatment of Influenza.

In some cases, influenza A symptoms can clear on their own with ample rest and fluid intake. In other cases, your doctor may prescribe antiviral medication to fight the infection. Common antiviral prescriptions include:

- zanamivir (Relenza)
- oseltamivir (Tamiflu)
- peramivir (Rapivab)

These medications, known as neuraminidase inhibitors, reduce the ability of the influenza virus to spread from cell to cell, slowing down the infection process. Though effective, these medications can cause side effects such as nausea and vomiting. If you begin to experience any of these symptoms or if your condition worsens, stop using the prescription and visit your doctor immediately. A new medication called baloxavir marboxil (Xofluza), created by a Japanese pharmaceutical company, was approved in October 2018 by the U.S. Food and Drug Administration (FDA). This antiviral drug helps stop the influenza virus from replicating. Over-the-counter medication therapy can also ease flu symptoms. Be sure to stay hydrated to loosen mucus in your chest and strengthen your immune system. If you have the

flu, you're contagious from at least a day before you begin to experience symptoms up through five days after your symptoms begin. In more severe cases, you could be contagious for even longer after you begin experiencing symptoms. This number can fluctuate if your immune system is weak or undeveloped, specifically in cases of children or older adults.

13.Prevention of Influenza

The best way to prevent the flu is through annual vaccinations. Each flu shot protects against three to four different influenza viruses within that year's flu season. Other ways to prevent spreading this disease include:

- washing your hands regularly
- avoiding large crowds, specifically during a flu outbreak
- covering your mouth and nose when you cough or sneeze
- staying home if you develop a fever and for at least 24 hours after it goes away
- Maintain social distancing and aware our health.

Type A influenza is a contagious viral infection that can cause life-threatening complications if left untreated. While some cases of this infection can improve without prescribed medication, a visit to your doctor is recommended. Don't self-diagnose your condition. The flu can resemble the common cold, but may trigger worsening symptoms. If you think you've contracted influenza, schedule a visit with your doctor to discuss treatment.

CONCLUSION :

Influenza H1N1 virus is spreading rapidly through sustained human-to-human transmission in multiple countries. Infected person may be able to infect others beginning one day before symptoms develop and up to seven or more days after becoming sick. Few of the antiviral drugs are available in the market for treating this wide spread infecting disease but due to their immense side effects, scientists are now turning their attention towards herbal therapy. Herbs exhibit a diverse array of biological activities and can be effectively harnessed for managing pandemic flu. It is evident that nutritional and botanical approaches, taken together, provide very potent tools for controlling an array of viral infections. The availability of a wide range of potentially active herbs and constituents, to potentiate as antiinfluenza agents, may have a leading role in the ongoing struggle against the H1N1 infection.

REFERENCES :

1. Ramirez A, Capuano AW, Wellman DA, Leshner KA, Setterquist SF, Gray GC, "Preventing zoonotic influenza virus infection". *Emerging Infect. Dis.* 12 (6), 2006,996–1000.
2. Rajasekaran, M. et al. Herbal composition having antiallergic properties and a process for the preparation thereof. *J. Drug Dev.*2(3) , 1989, 179-182.
3. M. T. Murray, *The Healing Power of Herbs: The Enlightened Person's Guide to the Wonders of Medicinal Plants*, vol. 25, Prima, Rocklin, Calif, USA, 1995.
4. Sebastian MS, Jianmin M, Raphael TCL, Fernanda LS and Frank E, Mapping the sequence mutations of the 2009 H1N1 influenza A virus neuraminidase relative to drug and antibody binding
5. Sites, *Biology Direct* 2009, 4:18doi:10.1186/1745-6150-4-18

6. L. Badam, S. P. Joshi, and S. S. Bedekar, ““In vitro” antiviral activity of neem (*Azadirachta indica*. A. Juss) leaf extract against group B Coxsackieviruses,” *Journal of Communicable Diseases*, vol. 31, no. 2, pp. 79–90, 1999.
7. R. Valsaraj, P. Pushpangadan, U. W. Smitt, A. Adsersen, and U. Nyman, “Antimicrobial screening of selected medicinal plants from India,” *Journal of Ethnopharmacology*, vol. 58, no. 2, pp. 75–83, 1997.
8. Lone AH, Ahmad T, Anwar M, Sofi G, Imam H, Habib S. Perception of health promotion in Unani herbal medicine. *J Herb Medic*. 2012;2(1):1-5.
9. Ansari AP, Ahmed ZN, Dar PA. Empirical evidence of animals used in biomedical research in Unani Medicine: An appraisal. *Int J Unan Integrat Medic*. 2018;2(4):11-3.
10. Ansari AP, Sana SH, Ansari H. The Concept of Abdāl-i-Adwiya (Drug Substitution/ Therapeutic Interchange) in Unani Medicine: A Critical Appraisal. *J. Adv. Res. in Pharmaceutical Sciences and Pharmacology Interventions* 2020;3(1):1-11.
11. Ahmad B, Akhtar J. Unani System of Medicine. *Pharmacognosy Reviews* 2007;1(2):210-14.
12. Anonymous. Standard Unani Medical Terminology. New Delhi: Central Council for Research in Unani Medicine, Dept. of AYUSH, Ministry of H & FW, Govt. of India; 2012:123,125-26,128-129,131,134,178.
13. Ahmad I. Introduction to *Al-Umur Al-Tabi'yah* (Principles of Human Physiology in Tibb). 1st ed. Delhi: Saini Printers, Pahari Dhiraj; 1980;1:32-5.
14. Ansari AP, Ahmed NZ, Wadud A, Arif M, Khanday S. *Ilaj bil Ghiza* (Dietotherapy): A core mode of Unani treatment. *J Advanc Resear Pharmaceut Sci Pharmacol Intervent*. 2018;2:27-35.
15. Ashraf MU, Muhammad, Hussain MA, Bukhari SNA. *Cydonia oblonga* M. A Medicinal Plant Rich in Phytonutrients for Pharmaceuticals. *Front Pharmacol*. 2016;7(163):1-20.
16. Jurjani AH. *Zakhira Khawarizm Shahi* (Urdu translation by Khan HH). Vol. V & VI. New Delhi: Idarah Kitab al-Shifa; 2010:93,94,201.
17. Sina I. *Al-Qanoon fi'l Tib* (Urdu translation by Kantoori GH). Vol. IV. New Delhi: Ejaz Publishing House; 2010:1205.
18. Nikhat S, Fazil M. Overview of Covid-19; its prevention and management in the light of Unani medicine. *Sci Tot Environm*. 2020;728:1-9.
19. Majusi AA. *Kamil al-Sana* (Urdu translation by Kanturi GH). Vol. I, Chapter IV & V. New Delhi: Idarah Kitab al-Shifa; 2010:28:226-7.