

## Black cumin, olive, ajwa dates, ginger, clove, fig fruit and leaf extracts as nutritional and organic medicine (biomedicine) for traditional and prospective treatment of viral diseases including Covid 19

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### Abstract

Nowadays viral disease like corona virus is a great threat and becomes danger all over the world. Currently 1.1 million sixty four thousand five hundred fifteen (1164515) people passed away by the infection of the COVID-19 all over the world. Still there is no data or vaccine invented for corona virus (COVID-19) treatment. The review study was conducted to evaluate and suggest the traditional and possible treatment immediately for the viral disease as well as COVID-19 (corona virus). From the studies of different research data, it has been seen that black cumin seed and oil, olive fruit and oil, ajwa dates, ginger, clove, fig fruit and leaf extract were an effective traditional treatment for inflammation, flu, throat sore (pain), asthma as well as other viral diseases. Therefore, it may be seemed from the review data that black cumin seed and oil, olive fruit and oil, ajwa dates, ginger, clove, fig fruit and leaf extract may be an effective treatment for COVID-19 (corona virus) for the time being.

**Keywords:** covid-19, biomedicine, black cumin, olive, ajwa dates, fig

### 1. Introduction

Black cumin, olive, ajwa dates and fig fruit, seed, leaf extract can be an effective traditional treatment for inflammation, flu, throat sore (pain), anthma as well as other viral diseases (Hossain 2014). They contain phytochemicals like carotenoid and polyphenol, which include phenolic acids, flavonoid, anthocyanin, vitamin and antioxidant. It was observed that black cumin, olive, ajwa dates and fig fruit extract contained a lot of minerals, vitamins, flavonoids and antioxidants <sup>[1]</sup>. Olive, black cumin, ajwa, fig fruit, leaves, and oil can be used as biomedicine for health benefits as well as anti-viral disease treatment. Olive leaf and fruit extracts are being used for cancer treatment showing inhibition of different cells proliferation in the cell culture technology <sup>[1]</sup>. Nowadays corona virus is a great threat all over the world. The 65228 people passed away by the infection of the COVID-19 (WOM, 2020). Still there is no data or vaccine invented for corona virus (COVID-19) treatment. Therefore, the objective of the review manuscript was to suggest for the some treatments of COVID-19 (corona virus) from the review data of tradition treatment of viral diseases which may be currently immediate Needs for all of the world.

#### 1.1. Black cumin seed and oil

Black cumin seed the scientific name is *Nigella Sativa*, other local names are kalonji seeds and haba al-barakah (Arabic phrase). It has been used by the people for thousands of years some associate black caraway with black seeds and they come from two different plants. Black seeds are found in India and haba al-barakah is an Arabic word and used in the Middle East mainly. Black seeds are commonly used in the kitchen also in many recipes <sup>[2]</sup>. It was stated that black cumin seeds contain over 100 chemical compounds and some of the ingredients are yet to

be discovered and identified <sup>[2]</sup>. The main active ingredient in black seeds is crystalline nigellone. The seeds also contain beta sitosterol, thymoquinone, myristic acid, palmitic acid, stearic acid, palmitoleic acid, oleic acid, linoleic acid, arachidonic acid, proteins and vitamins B1, B2 and B3. They also contain calcium, folic acid, iron, copper, zinc and phosphorous. An all-around multiple vitamin in these tiny black seeds (Fig. 1).



**Fig 1:** Black cumin (seed)

It was reported that black seed has been researched for very specific health conditions for Diabetes, helicobacter pylori infection, epilepsy, high blood pressure acute and tonsillopharyngitis <sup>[1, 3]</sup>. Sayer <sup>[3]</sup> found that all diseases were reduced by the black cumin. They also reported that it was effective for the following diseases:

**Asthma:** Thymoquinone, one of the main active constituents within *Nigella sativa* (black cumin), is superior to the drug fluticasone in an animal model of asthma. Another study, this time in human subjects, found that boiled water extracts of black seed have relatively potent antiasthmatic effect on asthmatic airways.

**Cancer:** Cell studies have found that black seed extract compares favorably to the chemoagent 5-fluoruracil in the suppression of colon cancer growth, but with a far higher safety profile. Animal research has found that black seed oil has significant inhibitory effects against colon cancer in rats,

without observable side effects.

## 1.2. Olive oil, fruit and leaf extract

Olive (*Olea europaea*) contains a significant role as fruit crop especially in the Middle East and African countries. It is of major sources of fruit industries in the Mediterranean region as the source of olive oil [4, 5]. Olive fruit and olive oil have been used as the food scene for the healthiest alternative to other edible oils. Olive keeps an important role as nutritional and medicinal fruit for all over the world. Some studies have been suggested that olive oil assisted to reduce the levels of low density lipoprotein [6].

The study has been observed that female had got satisfactory defend against ovarian cancer who had taken greater olive oil [7]. Studies showed that olive or olive oil might keep a potential role in decreasing trends or threat of different kinds of cancer, especially colon, breast, ovarian and prostate cancers. It has been stated that 1,031 having ovarian cancer as well as 2,411 lacking of cancer out of approximately 3,500 Italian women [8]. Consuming the maximum quantity of olive oil had the minimum of ovarian cancer and decreased 30% of certain disease [8].

It was reported that olive oil helped to combat cough as well as reduce inflammation in the throat [9]. He also reported that combination of 1/4 cup lemon juice with 1/4 cup honey by warming up 1/2 cup of olive oil. He also reported that olive oil could use for anti-inflammatory treatment in throat. It was observed that olive fruit and olive oil are a good source of vitamin E and other necessary phytonutrient components including polyphenol and flavonoid which showed a significant anti-inflammatory properties and delay aging [10]. In addition to that it assisted in the restoration of body tissues. A defensive mechanism against cancer, liver disorders, atherosclerosis and inflammations had been exhibited by using olive oil [11].

It was stated that potassium and phenol content were higher in olive. Local variety was affected by water use and other physical factors [12]. She described that potassium content varied 4.76 -6.55g/kg and phenol content was varied from 1-12.4mg/kg at different treatments. Moreover, K<sup>+</sup> and NO<sub>3</sub><sup>-</sup>, contents were higher in olive compared to the other nutrient content [13]. It was stated that olive contained (Fig. 2) olerophea antioxidant which inhibited cancer cell [14].



**Fig 2:** Fresh and processed olive and leaves

Various constituents (extracts, powder) of the olive leaves (*Olea europaea*) have been traditionally used in the treatment of infection, inflammation, prevention of chronic diseases, cardiovascular disorders and cancer [15]. The anticancer potential of dry olive leaf extract represents the net effect of multilevel interactions between different biologically active compounds from the extract, cancer cells and conventional therapy. Olive leaf extract significantly inhibited proliferation and subsequently restricted clonogenicity of the B16 mouse melanoma cell line *in vitro*. Moreover, late phase tumor treatment with olive leaf extract significantly reduced tumor volume in a syngeneic strain of mice. Olive leaf extract treated B16 cells were blocked in the G (0) /G (1) phase of the cell cycle, underwent early apoptosis and died by late necrosis. Despite molecular suppression of the proapoptotic process, olive leaf extract successfully promoted cell death mainly through.

It was reported that intake of olive oil had been shown to induce significant levels of apoptosis in various cancer cells [16]. They also reported that these anticancer properties has been shown in olive oil due to the phenolic compounds present in olive. Beneficial health effects of olive have been attributed for the presence of oleuropein and hydroxytyrosol. However, in their study, oleuropein and hydroxytyrosol, major phenolic compound of olive oil, were observed for its effects on growth in MCF-7 human breast cancer cells using assays for proliferation (MTT assay), cell viability (Guava ViaCount assay), cell apoptosis, cellcycle (flow cytometry). They also found that oleuropein or hydroxytyrosol decreased cell viability, inhibited cell

proliferation, and induced cell apoptosis in MCF-7 cells. Result of MTT assay showed that 200 µg/mL of oleuropein or 50 µg/mL of hydroxytyrosol remarkably reduced cell viability of MCF-7 cells. Oleuropein or hydroxytyrosol decrease of the number of MCF-7 cells by inhibiting the rate of cell proliferation and inducing cell apoptosis [16].

The phenolic compounds of olive oil and leaf are a complex mixture of compounds that include 3, 4-di hydroxy phenylethanol (hydroxytyrosol), 4-hydroxyphenylethanol (tyrosol), 4-hydroxyphenylacetic acid, protocatechuic acid, caffeic acid and *p*-coumaric acid, among others [17]. The concentration of the phenolic fraction is several times higher in olive leaf than in oil and varies depending on the cultivar and climate [18, 19]. *In vivo* and *in vitro* studies suggest that these bioactive compounds exhibit powerful antioxidant activity [20, 21]. One of various phenolic compounds hydroxytyrosol seems to be among the most important ones. It is present in free form and as a constituent of complex molecules such as oleuropein in leaves and fruits. Both hydroxytyrosol and oleuropein have been shown to possess anti-inflammatory, bactericidal and bacteriostatic activities [22]. Some *in vivo* studies on olive leaf have shown that its extract can decrease blood pressure and dilate the coronary arteries surrounding the heart [23]. Moreover, hydroxytyrosol has been shown to have anti-cancer effect on human colon adenocarcinoma HT-29 cells and human promyelocytic. Leukemia HL-60 cells have anti-melanogenesis activity, whereas oleuropein inhibited cell growth of LN-18, poorly differentiated glioblastoma; TF-1a, erythroleukemia; 786-O, renal cell adenocarcinoma; T-47D, infiltrating ductal

carcinoma of the breast/pleural effusion; RPMI-7951, malignant melanoma of the skin-lymph node metastasis; and LoVo, colorectal adenocarcinoma cells [24, 25]. It was investigated that the effect of Chemlali Olive Leaf Extract (COLE) for its potential differentiation inducing effect on multipotent leukemia K562 cells [26]. Their results showed that olive leaf extract inhibits K562 cells proliferation and arrests the cell cycle at G0/G1, and then at G2/M phase over treatment time. It was studied the biochemical, genomic DNA characterization and nutritional content in fresh olive at different water level and found significantly affected the biochemical, nutrient contents and DNA characterization at different water stress. Juan *et al* (2006) reported that an extract of the waxy coating of olive fruits had an antiproliferative effect on HT-29 human colon cancer cells [27]. The extract had a half-maximal effect on growth inhibition at ~75 and 25  $\mu\text{mol/L}$  of maslinic and oleanolic acids. High concentrations of olive fruit extracts with full inhibition of cell growth did not induce any signs of cytotoxicity. Consequently, the inhibition of cell proliferation appeared to be specifically reduced either by changes in cell cycle progression and/or the induction of apoptosis. They also reported that fresh fruit extract directly used to investigate the antioxidants (polyphenols with oleuropein) and biochemical (pH, glucose, sugar content), genomic (DNA) and nutritional properties like  $\text{N}^+$  as  $\text{NO}_3$ ,  $\text{K}^+$ ,  $\text{Ca}^{++}$ ,  $\text{Na}^+$  which might be related to the cell proliferation. They reported that fresh olive contained more polyphenol, biochemical content and DNA band and nutrient content than dry olive. Therefore fresh olive would be more effective for anti-cancer treatment. In addition, it can be recommended that dried fruit also might effective for anticancer cell proliferation.

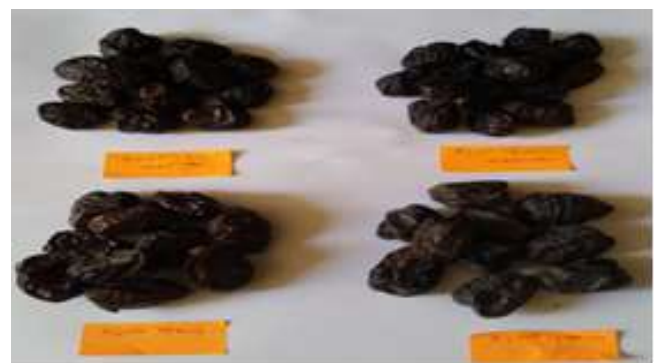
### 1.3. Ajwa dates fruit

Date fruits are very rich in fiber, fat and proteins. They have a form of sugar that bears the body high level of mobility, heat energy and can be easily broken down in the body. Date fruits contain many vitamins (vitamins A, beta-carotene, B1, B2, B3 and B6) and minerals. They also contain sodium, potassium, calcium, magnesium, iron, sulphur, phosphorus and chlorine [28]. Dates are notably one of the high calorie containing fruits. They are greater sources of minerals and vitamins and compose health benefit having flavonoid, polyphenolic, antioxidants known as tannins. These possess anti-infective, anti-inflammatory, and anti-hemorrhagic (prevent easy bleeding tendencies) properties [29]. Dates nutrient is augmenting in combination with the food scene as the healthiest alternative [30]. Dates exhibit a form of sugar that gives the body high levels of mobility and heat energy and which can be easily broken down in the body. Dates contain a great many vitamins and minerals. They also contain sodium, potassium, calcium, magnesium, iron, sulphur, phosphorus and chlorine, as well as vitamins A, beta-carotene, B1, B2, B3 and B6 [30].

Ajwa dates are the best as medicinal and nutritional fruit compared to other dates fruit varieties [31]. It contains potassium, calcium, iron, carbohydrate, sugars and dietary fiber [31]. Miller [32] reported that nutrient content was affected by environmental factors like water, sun light and temperature in Kiwi fruit. They are very rich in fibre, fat and proteins. It had been reported that fruit polysaccharide (cellulose and hemicellulose), lignin and pectin were varied from different location [33]. Kulkarni [34] carried out an

extensive experiment at different localities of alphonso fruit. They observed that fruit physiological (firmness, fiber) and phenotypic change has been differently occurred.

Hossain [35] carried out the experiment to investigate the ajwa date fruit physio-biochemical and nutritional quality like biochemical contents (fructose, glucose and inverted sugar, pH, TSS), mineral ( $\text{K}^+$ ,  $\text{Ca}^{++}$ ,  $\text{Na}^+$ ), antioxidant, flavonoids and DNA quantification They reported that inverted sugar, glucose and fructose were found higher in ajwa-Hail than in azwa-Madinah (large and small) and Azwa alqaseem fruit. Flavonoid and total antioxidant were found higher in Ajwa Hail than in Ajwa Madina and Ajwa Alqasim. In addition to that, mineral content like potassium, calcium, sodium was higher in ajwa-Madinah and Ajwa alqaseem fruit compared to others. Moreover, DNA band (segment) was wider in ajwa hail fruit and ajwa alqasim than in ajwa Almadina small and ajwa Almadina large (Fig. 3).



**Fig 3:** Photograph shows the different types of ajwa date fruit (Hossain *et al.*, 2018)

### 1.4. Fig fruit and leaves

According to the USDA [36] figs are one of the highest sources of fiber and calcium (Fig. 4). Figs have antioxidants and a laxative effect on the body. Figs contain fiber, magnesium, copper, manganese, calcium and vitamins A, B, C and K. Besides these vitamins, the figs also contain folic acid, sodium and zinc (Table 1). Figs are rich in potassium and fiber, helping to stabilize the blood pressure of the body. The figs contain anti-diabetic and anti-tumor properties. They have calcium, potassium, and soluble fiber, which aids in the reduction of cholesterol.



**Fig 4:** Fig fruit and leaves

It was reported that fig leaves could be used for the treatment of bronchitis, cardiovascular and cancer, hemorrhoid, liver cirrhosis, and lower blood pressure [36]. Fig fruit contains health benefiting soluble dietary fiber, minerals, vitamins, and pigment anti-oxidants that contribute immensely for optimum health and wellness. Fresh figs are good in poly-phenolic flavonoid anti-oxidants such as carotenes, lutein, tannins, chlorogenic acid etc. Their anti-oxidant value is comparable to that of apples at

3200  $\mu\text{mol}/100\text{ g}$ . In addition, fresh fruits contain adequate levels of some of the anti-oxidant vitamins such as vitamin A, E, and K. Altogether these phyto-chemical compounds in fig fruit help scavenge harmful oxygen derived free radicals from the body and thereby protect us from cancers, diabetes, degenerative diseases and infections [36]. Fresh, as well as dried figs contain good levels of B-complex group of vitamins such as niacin, pyridoxine, folates, and pantothenic acid. These vitamins function as co-factors for metabolism of carbohydrates, proteins, and fats. Dried figs are excellent sources of minerals like calcium, copper, potassium, manganese, iron, selenium and zinc. 100 g of dried figs contain 640 mg of potassium, 162 mg of calcium, 2.03 mg of iron and 232 mg of potassium [36].

**Table 1:** Fig fruit (*Ficus carica*) nutrition value [36].

Fig fruit Nutrition Value (per 100g)		
Contents	N Nutrition Value	Age (%)
Energy	74 Kcal	4
Carbohydrates	19.18 g	15
Protein	0.75 g	1.5
Total Fat	0.30 g	1
Cholesterol	0 mg	0
Dietary Fiber	2.9 g	7
Vitamins		
Folates	6 $\mu\text{g}$	1.5
Niacin	0.400 mg	2.5
Pantothenic acid	0.300 mg	6
Pyridoxine	0.113 mg	9
Riboflavin	0.050 mg	4
Thiamin	0.060	5
Vitamin A	142 IU	5
Vitamin C	2 mg	3
Vitamin E	0.11 mg	1
Vitamin K	4.7 $\mu\text{g}$	4
Electrolytes		
Sodium	1 mg	0
Potassium	232 mg	5
Calcium	35 mg	3.5
Copper	0.070 mg	8
Iron	0.37 mg	5
Magnesium	17 mg	4
Manganese	0.128 mg	5.5
Selenium	0.2 $\mu\text{g}$	<1
Zinc	0.15 mg	1
Phytonutrients		
Carotene- $\beta$	85 $\mu\text{g}$	--
Lutein-zeaxanthin	9 $\mu\text{g}$	--

### 1. 5. Ginger and Clove

It was reported that ginger boasted many potent anti-inflammatory compounds and antioxidants, which protected the body from damage by unstable molecules like free radicals. They also reported that numerous test-tube and animal studies showed that ginger extract reduced inflammation, rheumatoid arthritis, inflammatory gut disease, asthma, and certain cancers [37].

It had been stated that cloves were used in traditional medicine like steam, and its essential oil, which had used as an anodyne especially for dental emergencies and other disorders. They also reported that cloves might be used to give aromatic and flavor qualities to hot beverages, often combined with other ingredients like lemon [38].

It was found In Mexican cuisine that cloves was the best known as *clavos de olor* and often made

accompany cumin and cinnamon. They also reported that component of clove taste was impacted by the chemical eugenol [39]. It had been paired well with cinnamon, allspice, vanilla, red wine, basil, onion, citrus peel.



**Fig 5:** Photograph shows dried cloves and ginger

### 2. Conclusion

It can be concluded from the review data that black cumin seed, olive, ginger, clove, ajwa dates and fig fruit, leaf extract were an effective traditional treatment for inflammation, flu, throat sore (pain), asthma as well as other viral diseases. That is why, it may be suggested that black cumin seed and oil, olive fruit and oil, ajwa dates and fig fruit, clove, ginger and leaf extracts as nutritional organic medicine for traditional and possible treatment for corona virus.

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