



"MEDICINAL HERBS AND MEDICATIONS MANUFACTURED FOR TREATMENT COVID-19 AND ITS COMPLICATIONS, FROM THE POINT OF VIEW OF A SAMPLE OF PHARMACISTS AND NURSES' IN SAUDI ARABIA".

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ABSTRACT

Background: The COVID-19 pandemic was declared a public health emergency of international concern by the World Health Organization on March 12, 2020. Natural products and herbal medicine have been used since ancient times to relieve and treat disorders and infections, as well as increase immunity, despite of the beneficial effects of herbal medications; there are many side effects or interactions with other medications or foods that might occur. So, this study aimed to explore the Point of view of a Sample of Pharmacists and Nurses' in Saudi Arabia towards using medicinal herbs and medications manufactured for Treatment COVID-19 and its Complication, to achieve the objectives of the study, the researchers conducted an exploratory study on a sample of (200) pharmacists and Nurses' whose working in health centers and hospitals in the city of Riyadh, in addition to reviewing literature and previous studies in this field. The results showed that the study sample believes to a large extent that Saudi citizens take a lot of various nutritional supplements or herbal products to prevent diseases, most notably Covid, pharmacists also saw that some nutritional supplements or medicinal herbs often have a negative impact on the general health of those who take them.

Keywords: Medicinal Herbs, Medications Manufactured, Pharmacists, Nurses' , Treatment COVID-19, Saudi Arabia.

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I. Introduction and Background:

The COVID-19 pandemic was declared a public health emergency of international concern by the World Health Organization on March 12, 2020, COVID-19 is characterized by a very high transmission property that can cause severe damage to patients' lungs (Aldarhami, et al, 2020). In Saudi Arabia, the first case of COVID-19 was reported in March 2020, with a high spreading rate throughout the country, the Saudi government started restriction measures for the educational and transportation systems (Algaissi, et al, 2020). However, the virus was still spreading, with more than 145 thousand cases in the kingdom, indeed, there is no definitive treatment for COVID-19, which has raised a flag of concern globally.

Thus, there was a good amount of attention towards seeking other ways than using drugs or medicine to treat this infection and increase immunity against it (Barry, 2020). Natural products and herbal medicine such as mint, oregano oil, and garlic were used in ancient history to relieve and treat disorders and infections, as well as increase immunity (Barry, et al, 2020). Despite the beneficial effects of herbal medications, there are many side effects or interactions with other medications or foods that might occur. Nowadays, there has been a huge increase in the use of herbal medicine by people who are afraid of COVID-19 without a prescription or reviewing their situation with an expert (EL Alamlab, et al, 2020). In addition to enhancing well-being, optimal nutrition may help reduce the risk and morbidity of COVID-19, which is brought on by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) viruses.

Studies showed recommendations emphasized the need for vitamins, minerals, and antioxidants such as zinc and vitamins C, A, and D to keep the immune system functioning properly (El Khoury, et al, 2020). There is no evidence to suggest that dietary supplements can prevent COVID-19. Nonetheless, it was noted that supplementing with zinc, selenium, and vitamins C and D may be advantageous for people who have respiratory virus infections, are susceptible to them, or have nutrient deficiencies.

Indeed, the transmission of COVID-19 holds global concern as it is characterized by very fast and dangerous transmission (Lu, et al, 2020). According to available data, the COVID-19 causative virus spreads by respiratory droplets or by contaminated hands encountering the mucosa of the mouth, nose, or eyes. Contaminated hands can also spread the virus from one surface to

another, which promotes indirect contact transmission. To stop the pandemic from spreading, the health authorities are taking numerous preventive measures into consideration due to these facts and the lack of viable vaccines or treatments (Martini, et al, 2019).

Based on lessons learned from the 2012 Middle East Respiratory Syndrome (MERS) epidemic, the Ministry of Health in the Kingdom of Saudi Arabia promptly launched several campaigns, introduced mobile health applications and call centers, and informed the public about COVID-19 and related topics to raise public awareness, encourage active learning, and encourage the public to look up information about relevant preventive measures such as the protocol of washing hands and the benefits of staying at home (Nemati, et al, 2020).

Herbal products such as garlic, mint, and oregano oil are increasingly being used by patients, and a large body of research has documented their application in the treatment of serious emerging infectious diseases, including SARS and MERS (Singhal, et al, 2020). The general public's use of herbal remedies and supplements as a prophylactic precaution during the COVID-19 pandemic in the Middle East has not been extensively studied. According to a recent Moroccan study, during the COVID-19 epidemic, 23 distinct types of therapeutic plants from 11 different botanical families were used. The Lamiaceae, Cupressaceae, and Zingiberaceae families were the most significant. According to (EL Alamlab et al, 2020) the most often utilised plants were garlic, olive, onion, and ginger (Zhao, et al, 2020).

Public frequently uses ginger, onion, and garlic, and there is a widespread assumption that these foods can boost immunity and lower the risk of contracting COVID-19 (Zhao, et al, 2020). Our investigation supported these findings, According to earlier research, there is a widespread perception that herbal products are high-quality and safer than prescription drugs. Herbal medications and supplements were frequently utilized for reasons such as family customs and habits, positive experiences with herbal medicine in the past, and dissatisfaction with conventional therapy (Zhong, et al, 2020).

Because it supports the diverse cellular processes of the innate and adaptive immune systems, vitamin C is one of the most widely used vitamins in a variety of populations (Zhou, et al, 2020). Furthermore, vitamin C supports the function of the epithelial barrier, encourages oxidant scavenging activity, builds up in phagocytic cells (like neutrophils), and stimulates a few defense

mechanisms that ultimately aid in the destruction of microorganisms. Garlic supplements made of natural goods are also widely used by the public, which is thought to be related to their antioxidant, antibacterial, and anti-inflammatory properties that help safeguard human health (Liang, et al, 2021).

A definitive therapeutic agent for managing COVID-19 has not been recommended for humans until now. Current preventive and treatment efforts for COVID-19 have for caused developing vaccines and specific therapeutic agents targeting SARS-Cove-2 +e preventive method that could potentially hamper the spread of diseases is vaccination. A vaccine for COVID19 involves the active immunization of the vaccine components to induce the production of neutralizing antibodies specific to the SARS-CoV-2 antigen. +e target antigen of the antibody is the S protein found on the surface of the virus. Some experimental studies have shown that giving the full-length S protein may induce the release of a protective antibody by blocking the binding of the virus with the ACE2 receptor (Nemati, et al, 2020). Clinical testing of this vaccine is being conducted by some investigators from the National Institute of Allergy and Infectious Diseases-Vaccine Research Center (Belachew & Tsegaye, 2021).

There are some potential therapeutic agents for COVID19 management, such as antiviral agents, chloroquine/ hydroxychloroquine, dexamethasone, and convalescent plasma transfusion, but most of them still show inconsistent results. Several antiviral agents are under investigation as a treatment for COVID-19. Remdesivir is one of the antiviral agents that used for COVID-19 and known as an adenosine analogue that can be merged into viral RNA chains resulting in their early termination. Davies et al. studied about the systematic benefit-risk assessment of remdesivir in the treatment of COVID-19, but is study showed that there might be a favorable benefit-risk profile for remdesivir compared with placebo in severe cases of COVID-19 infection. +ere is still a need for benefit and safety data for remdesivir to provide further studies. (Getnet & Edmund, 2021). reported that remdesivir exhibited a promising effect.

II. Medicinal Herbs and Medications Manufactured for Treatment COVID-19:

The world was relying on self-care practices that include the use of traditional medicine, traditional medicine is gaining attention for the design and development of novel anti-infective that might

have been used in the prevention and treatment of infectious agents. Complementary and Alternative Medicine (CAM) is a set of practices that are not fully integrated into the modern healthcare system and include herbal products, animal products, spiritual healers, yoga, and relaxation techniques, the practice has been used throughout the world for centuries to prevent and treat chronic and acute illnesses including, respiratory tract infections. The immunity of patients plays an essential role in COVID-19. Therefore, Herbal and traditional medicines having immunomodulatory effects could be potential candidate for preventive and treatment of COVID-19 patients. (Shujie & Zhangfeng, 2021).

During the early stage of the disease, the community was consuming herbal medicines containing certain active substances, which have antimicrobial or antiviral, anti-inflammatory and immune's ambulatory activities, such as Echinacea, Quinine, and Curcumin. These herbal compounds are assumed to modulate the immune system of patients, and they might have beneficial effects on preventing or treating COVID-19 there are limited clinical trials on the effectiveness of traditional medicines in the prevention and treatment of COVID-19. However, collecting patient's views and experiences of using traditional medicine in COVID-19 is essential for future practice. Collecting data on common information queries received in community pharmacies, other medical institutions, and Internet forums will help develop evidence based information (Lin, & Myeong, 2022).

These interns support effective consultation and communication practices for patients, There are theoretical approaches suggesting ACE2 (Angiotensin Converting Enzyme 2) could be one target for managing the COVID-19 infection.10 Plant extracts showed an inhibitory effect on ACE. Creases avium (L.) Moench, Alcea digitata (Boiss.) Alef, and Rubia tinctorum L, inhibit ACE up to 100%. Citrus uranium L; Berberis integerrima Bge Peganum harmala L. and Allium sativum L inhibit the enzyme up to 70% or more (Shankar, 2020).

A review by the British organization Cochrane that examined the results of alternative therapies used during the SARS epidemic suggested that in general combinations of herbal medicines complementary to conventional therapy do not lower mortality, but may improve quality of life; reduce the chances of deep lung infiltration, and the application of low doses of drugs such as corticosteroids. Different findings suggested that

herbal medicine can reduce the severity and prevent COVID-19.

According to a Saudian study published in the American Journal of Public Health Research, a group of researchers at Taibah University in Saudi Arabia confirmed the success of a treatment protocol for coronavirus patients that rely on herbs in accelerating the recovery process for patients and raising their immunity to confront the virus when infected.

The researchers also made herbal sprays for the topical treatment of pneumonia or bronchial pneumonia that affects severe cases of corona, and they confirmed that this spray helps protect pulmonary tissue and has antiviral effects, especially for patients with bad breath, and they indicated that *Nigella sativa* works to enhance immunity. Chamomile exerts tissue protection effects and inhibits viral replication to the greatest extent (Silveira, 2020).

Furthermore, potential specific antiviral agents such as the decoy mini protein CTC, protease inhibitors, mainly against the Main protein, nucleoside analogs, such as molnupiravir, and compounds blocking the replication transcription complex proteins such as plitidepsin and zotatifin are under investigation against COVID-19. Herbal medicines have also helped to alleviate the effects of infectious diseases such as SARS-Cove-evidence supports that herbal medicine may be effective in reducing and managing the risk of COVID 19 (Ni, 2020).

The usage of herbal medicine as an alternative remedy for Corvid 19. combination with modern medicine, and has released several recon emendations on herbal therapy Since many botanical drugs show antiviral efficacy, the use of herbal medicine for therapeutic purposes should not be underestimated. Currently, well-known herbal medicines with antiviral activities are being used as an additional treatment to suppress SARS-Cove, since conventional treatments are still not well succeeded (Jebriil, 2019).

III. Study design and study population

This study is a cross-sectional study using an online cross-sectional survey, this survey was generated based on a deep review of the literature on COVID-19 as well as the use of medicine and herbal medicine to treat this infection [12-14]. In addition, three researchers examined the questionnaire instrument to assess the questions' adequacy, appropriateness, relevancy, clarity, and validity. Validation was done by a group of people who answered the survey and were unrelated to our results. In addition to covering

sociodemographic information, the survey delves into people's views regarding the use, sources of information, and availability of herbal products and food supplements, as well as their perceived ability to fend off the pandemic.

IV. Study Sample:

The researchers conducted an exploratory study on a sample of (200) pharmacists and Nurses' working in health centers and hospitals in the city of Riyadh, in addition to reviewing literature and previous studies in this field.

V. Results:

The results of the study revealed that pharmacists and Nurses' emphasized the importance and role of some herbal medicines and nutritional supplements in treating some diseases, including Covid-19. However, they also stressed the importance of health education for citizens about the disease they suffer from, and how to use herbs and nutritional supplements, but under the supervision of a doctor, pharmacist, or Nursing, especially with people with chronic diseases, these supplements can affect other medications they are using. In addition to knowing how to use herbs effectively to prevent and protect against disease or any transmission of it, also showed that the Pharmacists and Nurses' believes to a large extent that Saudi citizens take a lot of various nutritional supplements or herbal products to prevent diseases, most notably Covid, pharmacists also saw that some nutritional supplements or medicinal herbs often have a negative impact on the general health of those who take them.

VI. Conclusions:

Using herbal medicine is a potential platform for answering various types of COVID-19 virus management. An antiviral drug that is primarily approved by "WHO" for emergency management was remdesivir. Herbal medicine and its bioactive fractions are potentially beneficial in preventive COVID-19 and as supportive measures. Different valuable herbal medicine can interfere with COVID-19 pathogenesis by inhibiting SARS-CoV-2 replication and entry to its host cells. Different components of plants biochemical are the most desirable herbal drink or fruit that can be introduced as effective adjuvant components in COVID-19 management; and also, to reduce fever and cough as the most common complication of COVID-19 via their anti-inflammatory effect. Some herbal products such as *Gymnanthemum*, *amygdalinum*, *Azadirachta indica*, *Nigella sativa*, and *Eurycoma longifolia* can be used. On the

other hand, numerous herbal drugs such as *G. glabra*, *Thymus vulgaris*, *Allium sativa*, *Althea officinalis*, and ginseng may become effective in the preventive and supportive management of COVID-19 through boosting the immune system. The study conclusions showed that Saudi Arabia's public is good at taking dietary supplements or herbal products to use against some illness. Researchers recommend that the Ministry of Health conduct more educational efforts to raise public awareness of disease transmission pathways and preventive actions. Furthermore, to guarantee patient safety, the use of herbal products should be supported by a professional counsellor, for example, by an electronic-supported system that is reviewed regularly.

VII. Recommendations:

Researchers believe that herbal treatment or nutritional supplements can help treat some respiratory diseases. It is recommended that before treating with herbs, it is recommended to consult a doctor under his supervision, as there are many negative effects of some herbs and nutritional supplements, especially in patients who take chemical medications. Researchers also believe that there are some herbs that have great therapeutic value and can be taken even if there is no disease, such as: anise, turmeric, sage, ginger, and others.

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