



In This Issue

Editor's Summaries of the Articles Published in This Issue of Phytopharmacological Communications

Editorial Staff

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In this issue, Jabeen and colleagues investigate the protective role of *Ficus carica* L. against experimentally-induced hyperthyroidism, Saeed and colleagues determined the potential antibacterial activity of extracts from two plants *Salvadora persica* and *Salvadora oleoides*, Ali and friends screened one of the most common fruits, *Malus domestica* (MD or apple), used in Pakistan for its potential cardio-protective effects, Bashir et al, describe the epidemiology of SARS-CoV-2, its pathophysiology, challenges of current treatment for SARS-CoV-2, and the significance the medicinal plants and their extracts in treating Covid-19, and Ibrahim and colleagues discuss complementary and alternative medicine for the treatment of Hepatitis C virus infection.

Pharmacological Investigation of Aqueous Methanolic Extract of *Ficus carica* against Thyroxine-induced Hyperthyroidism

Plants have been considered the best alternatives to chemical entities. Therefore, Jabeen and colleagues selected *Ficus carica* L. (Fig) to investigate its protective role against experimentally-induced hyperthyroidism. Their results showed dose-dependent effects of Fc.Cr, as evident from the increase in serum thyroid stimulating hormone (TSH) and decrease in T3 and T4 levels, indicating its potential for managing hyperthyroidism. Acute toxicity assay of Fc.Cr was also performed and found to be safe up to 10

g/kg. Hence, their study rationalizes the traditional use of *Ficus carica* to manage hyperthyroidism.

Characterization of *Salvadora persica* and *Salvadora oleoides* Extracts Against Multidrug Resistant Bacterial Strains

The rapid emergence of drug-resistant bacteria is occurring worldwide, presenting urgent, serious, and concerning threats, many of which are already responsible for placing a substantial clinical and financial burden on the global healthcare system, patients, and their families. Saeed and colleagues determined the potential antibacterial activity of two selected plant extracts. The tested plant extracts have shown potent antibacterial activity against multidrug-resistant bacterial strains and thus can be further evaluated for extracting potent antibacterial compounds with broad therapeutic potentials.

Aqueous Extract of *Malus domestica* Inhibits Human Platelet Aggregation Induced by Multiple Agonists

Cardiovascular diseases such as hypertension, myocardial infarction, and atherosclerosis are the major cause of morbidity and mortality in humankind and not only afflict industrialized nations but also affect developing countries such as Pakistan. Ali and colleagues screened one of the most common fruits, *Malus domestica* (MD or

apple), used in Pakistan for its potential cardio-protective effects. They found that MD-Aq could elevate GPX and TAS levels, is inactive at SOD, and is excellent as a calcium channel blocker, a more potent blocker of arachidonic acid-induced aggregation than platelet-activating factor-induced aggregation. These activities can help treat various cardiovascular diseases.

Exploring Nature's Invigorating Power: Phytotherapy for SARS-CoV-2

Covid-19 is a respiratory disease caused by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) that spreads by person-to-person contact. The virus is thought to have a zoonotic origin. Bashir and colleagues briefly discuss the epidemiology of SARS-CoV-2, its pathophysiology, and the challenges of current treatment for SARS-CoV-2. Their review signifies the medicinal plants and their extracts for the treatment of Covid-19. Available literature suggests that aloe vera, senna, black cumin, and fenugreek have the potential to be effective antivirals against SARS-CoV-2. Many of these plants also have immunomodulatory, antiasthmatic, antipyretic, anti-tussive, and antiviral effects. Bioactive compounds such as quercetin, curcumin, epigallocatechin gallate, baicalin, andrographis, glycyrrhizin, and resveratrol have also been shown to relieve Covid-19 symptoms. The authors conclude that these medicinal plants may serve as a source of phytocompounds with safer and more potent antiviral agents against SARS-CoV-2 and should be investigated further in detail.

Complementary and Alternative Medicine for the Treatment of Hepatitis C Virus Infection

Hepatitis C virus (HCV) infection, a fatal infectious disease, is a grave issue from a global perspective. The current treatments with ribavirin, pegylated interferon, and direct-acting antivirals (DAAs) have been efficacious for years. However, toxicities, adverse drug reactions, and the development of resistance have created a need for discovering new molecules to treat HCV infection. In this context, Ibrahim and colleagues discuss medicinal plants which contain many constituents that provide potent activity against HCV. They argue that several *in-vitro* and *in-vivo* experiments have confirmed the anti-HCV potential of many phytochemicals, such as polyphenols, glycosides, and many other secondary metabolites. Many of these compounds prevent the entry of HCV into the liver cells, while some of them inhibit the viral replication process within the host cells. Silymarin is a significant discovery for HCV treatment from *Silybum marianum*. Epigallocatechin-3-gallate extracted from *Camellia sinensis*, Rutin obtained from *Prunus domestica*, and some other constituents have also provided propitious results with respect to their anti-HCV activity. However, the authors suggest that the activity of these phytochemicals may be refined by applying nanomedicine to overcome the limitations of phytochemical therapy.

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