Independent review favors phytopharmacology to treat post-COVID-19 symptoms

Conclusion, appraisal, and horse proverbs

- The authors of that narrative review conclude that "*Medicinal plants and active chemical compounds presented in this study seem extremely useful in long COVID, where numerous neurological complications appear*".
- This work attests to the fact that the use of herbal medicines to manage consequences of the disease is part of a vivid discussion currently occurring in the scientific community. I have to admit, though, that this review is not up-to-date in every instance, and it is often not focused on post-COVID-19, and it contains several blunders (e.g. recommending *Lavandula officinalis* instead *L. angustifolia* against mixed anxiety and depression, etc.).
- Moreover, to many physicians, pharmacists, scientists, and patients alike, the application of herbal remedies to alleviate post-COVID-19 symptoms apparently appears more than plausible.
- I am well aware that after reading the title, the review contents is *a horse of a different color*. However, *Don't look a gift horse in the mouth*. It is apparent the publication has its quirks, but hey, it is overall positive on our behalf and contains *enough information to choke a horse*. Talking about horse proverbs: When it comes to recommending **EGb 761®** or Silexan®, Kaloba®, to treat post-COVID-19, *hold your horses* yet.

Introduction and **goal of the study**

- The authors believe that "*the most dangerous … [COVID-19] complications … seem to be neurological ailments: anxiety, depression, mixed anxiety–depressive (MAD) syndromes, and irreversible dementia*."
- The review explores whether "*plant materials and their dominant compounds*" could reduce "*post-COVID-19 neurological, respiratory, and cardiovascular complications*." It also summarizes several earlier reviews that examined the potential benefits of plant-based medication against viral infections.

Concise main results summary

Symptom	Efficacy of phytopharmaceuticals
Anxiety	For all plant-based medication included: No "addiction, tolerance, withdrawal, … rebound effect" ***Valerianae radix-Valeriana officinalis* L.**: "effective anxiolytic drug" ***Melissae folium-Melissa officinalis* L.** "reduced the feeling of danger and anxiety, facilitated falling asleep, counteracted digestive tract disorders caused by nervous tension"; "reduce negative mood changes associated with… stress" ***Passiflorae herba–Passiflora incarnata* L.** "anxiolytic effect well documented" ***Piperis methystici rhizoma* (kava-kava)-*Piper methysticum* G. Forst.** improvement of "anxiety states, tensions, and nervous excitations". Few cases of liver side effects. ***Lupuli flos-Humulus lupulus* L.** "healing effect on mood disorders such as restlessness, anxiety, and difficulty sleeping". ***Ballotae nigrae herba–Ballota nigra* L.** Anxiolytic effect after injection *in vivo*.
Depression	***Hyperici herba-Hypericum perforatum* L.** In clinical trials similar efficacy as synthetic anti-depressive drugs. "in the case of depression, the first choice among all drugs, including synthetic ones, should be Hypericum perforatum" ***Rhodiolae radix–Rhodiola rosea* L.** "improvement in cognitive disorders… counteracting fatigue … strengthening muscles, … improved reaction speed, better concentration, greater mental performance and … resistance"

Mixed anxiety-depressive syndrome	***Lavandulae flos Lavandulae aetheroleum-Lavandula officinalis* Chaix**. "improve mood, have an antianxiety effect, and are more antidepressants than a sedative" ***Paulliniae semen* (guarana)–*Paullinia cupana* Kunth ex H.B.K. var. *sorbilis* (Mart.) Ducke (*P. sorbilis* C. Mart.)**. "improved cognitive processes and decreased anxiety and sleep disorders… mood, concentration, and increased reaction speed… self-confidence."
Memory, cognitive function	***Ginkgo folium-Ginkgo biloba* L**. "improvements in functional memory…, on executive memory processes… speed of data reproduction… data consolidation … speed of reaction… precision of remembering and reproducing… increased speed of performing memorized actions, and consolidation of executive memory." "It seems essential to use this drug even prophylactically and not wait for the first signs of dementia in a diagnosed COVID-19 infection". ***Lavandulae flos Lavandulae aetheroleum-Lavandula officinalis* Chaix**. "Improvement in functional memory, reaction speed, concentration…. anxiety , attention" ***Melissae aetheroleum–Melissae flos* L**. Improvement in agitation in dementia patients; in concentration memory.
Cardiovascular and heart disorder	***Crataegi fructus-Crataegus monogyna* Jacq. and *C. oxyacantha* L**. "hawthorn strengthens the force of cardiac muscle contraction … [has] antiarrhythmic effects; increases the amplitude and time of myocardial contractility, …. and tolerance to physical effort", reduces palpitations, and stabilizes heart rhythm; "also recommended to prevent the risk of circulatory insufficiency and to treat chronic conditions of the so-called senile heart".
Inhibition of respiratory tract inflammation	***Hederae helicis folium-Hedera helix* L.** Ivy leaf extracts effective in chronic airway obstruction, chronic bronchitis, pulmonary lesions, and acute bacterial respiratory infections ***Polygalae radix-Polygala senega* L**. „ secretolytic and mucolytic effects" ***Pelargonii radix-Pelargonium sidoides* DC.** African geranium root extract effective in sinusitis; it "exhibited potent antimicrobial activity—antibacterial and antiviral. The plant preparation interfered with the penetration of these microorganisms into the host cell." ***Lichen islandicus-Cetraria islandica* (L.) Acharius**. effect in …patients with inflammation and dryness of the airway mucous membranes, markedly enlarged lymph nodes, a coated tongue, and hoarseness, and after acute and chronic inflammation of the bronchial and pharyngeal mucous membranes.

Reference

Medicinal Herbs in the Relief of Neurological, Cardiovascular, and Respiratory Symptoms after COVID-19 Infection A Literature Review. J. Nawrot, J. Gornowicz-Porowska, J. Budzianowski, G. Nowak, G. Schroeder and J. Kurczewska. Cells 2022 Vol. 11 Issue 12. Open access. Impact factor: 7.666