





The phytochemical components of caesalpinia sappan in treating respiratory ailments through an herbal soup in addition with sensory evaluation

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Abstract

The pestilence of viral infections is a worldwide scenario, urging a critical need of most encouraging antivirals treatment during this pandemic situation. A portion of the viral illnesses can be restored by affirmed antiviral medications, yet for other people, actually don't have any antibodies or medications accessible. Thus, foods are prepared with medicinal ingredients as a home remedy could be a better option. Likewise, Caesalpinia sappan has natural characteristics to provide sweetness, sourness, flavor, colour with medicinal properties, as in some circumstances selective ingredients are added for medicinal purpose. Caesalpinia sappan (*C. sappan*) Wood is obtained from prickly thorny tree, which has yellow buds and blossoms, it is mostly used in Ayurveda and also in making herbal drink at Kerala of South India. The bark of this tree has medicinal properties and the various studies of this *C. sappan* has proved that the bark of this tree assists in purifying the blood with its antiviral and antimicrobial properties. The purpose of this study is to identify the phytochemical properties of *C. sappan* that acts as an antiviral and antibacterial agent, also as a coloring agent in food with the addition of *C. sappan* bark extract to Herbal Soup. Secondly it is focused on knowing the quality of Herbal Soup through sensory evaluation.

Introduction

The *C. sappan* is commonly known as Caesalpinia sappan in Kerala, this Caesalpinia sappan wood was a significant exchange of trade at early stages, when it was traded from Southeast Asian countries to Japan. The bark of Caesalpinia sappan is a customary element used in nourishment and refreshments in Kerala of South India and has been utilized in conventional medication as a pain relieving and relaxing drug or to advance blood purification. Logical investigations have affirmed diverse bioactivities related with its utilization. Here, five portions were disconnected from the ethanol concentrate of Caesalpinia sappan bark, utilizing elite fluid chromatography [1]. All mixes were tried for their mitigating impacts in a diverse research. The cytokine fixations in the extract obtained were resolved utilizing compound connected to techniques produced is used in captivation of antibodies found through antigens test is insoluble in preparation, and the levels were estimated utilizing reverse-interpretation quantitative polymerase chain response. In lipopolysaccharide-invigorated macrophages, all mixes fundamentally repressed the discharge of the ace

provocative cytokine's interleukin and tumor corruption factor. Sappanol expanded the discharge of the mitigating animated chondrocytes, the discharge of the genius fiery cytokines was absorbed from *C. sappan* [2].Table 1

The most elevated calming impact is observed in molecules of brazilin, furthermore it is considered as a main examination which displays the mitigating impact of the chemical compound present in *C. sappan* like Sappanol and episappanol. This examination gives proof to the adequacy of the conventional utilization of *Caesalpinia sappan* as an antibacterial and antiviral agent [3]. Given the high pervasiveness of irritation associated origin of pathogens including joint pain, and the dire required to practice in medical examination that intercede with these sicknesses, the calming action of different mixes from the *Caesalpinia sappan* could zeal for the improvement of corresponding and elective handling methodologies [4]. A large portion of the affirmed antiviral medications are by one way or another straightforwardly or by implication related with results, which at last increase the requirement for the advancement of antimicrobial components available with dependent regular analysis with the phytochemicals of *C. sappan* [5]. All around the world, the improvement of medicine that treat viral infections are headed for herbal remedies and plant-based items which is used in early stages to treat sickness and there is a fewer opportunity to create opposition. The phytochemicals present in *C. sappan* have been used customarily to heal numerous sicknesses [6], and furthermore have been accounted for to restrain viral replication/record.

The vast majority of them restrain the infections moreover while the pathogen section of the molecule in the course of their replication [7]. Additionally, half of the medications got through vegetation are actuality utilized in many countries. Especially those plants that has flavonoids, alkaloids, terpenoids, and tannins that are having cell reinforcement action, and assist in repressing the component of viral genome of pathogen. Different plant-inferred items that are available in concentrated form can act in contradiction of infections like flu, cough and viral infection that will lead to immunodeficiency in human, thus this also proved in treating infections (HIV) and herpes infection. All the more as of late, Coronavirus illness (COVID-19) brought about by a recently distinguished novel Covid that has become a major treat by making pandemic situation and changes are to become endemic in future, and influenced total populace harshly. Be that as it is contagious, there are various studies carried with the investigation of chemical components for the hindrance of infections like dengue infection unlike chikungunya infection, and other alphaviruses. Thus, a study on *C. sappan* that accentuate on the detailed phytochemicals and their subordinates, having an antiviral characteristic with their activity is performed in order treating viral illnesses through an herbal soup.

The novelty of this study adding *C.sappan* with antiviral herbs in regular diet by preparation of soup which is served in a hot form to the consumers especially who had Covid-19 symptoms has given better results after the consumption and they found to be relived from this symptoms gradually after a period of time.

Section snippets

Materials and methods

Treating respiratory disease especially covid-19 has become a challenging task, to determine an effective remedies several studies are carried out, whereas adding some antiviral and antibacterial agents in a regular diet may prevent respiratory disease, especially in liquid form as a hot soup along with the Ayurveda herbs that has an antiviral properties could be a better alternative for regular medicine, consuming it also relives throat irritation. The medicinal soup prepared is given to those ...

Result and analysis

A phytochemical study is carried to know the chemical components present in *Caesalpinia sappan* with garlic, in order to identify that this mixture will support in healing respiratory issues. A recipe formulation is done and its acceptance is identified through mean.

From the Table 2, the properties of *C. sappan* contains flavonoids, alkaloids prove the availability of poly nutrients, whereas the alkaloids present in *C. sappan* has improved the medicinal value along with flavonoids and terpenoids...

Conclusion

The bark of the tree *C. sappan* is a coloring agent, the Terpenoids C₅H₈ present in *Caesalpinia sappan* is having antiviral, anti-inflammatory and antiparasitic properties, which is assist in healing respiratory ailments.

The sensory evaluation results have shown a greater significance for acceptance with the factors like taste, colour, texture and aroma and the quality of the soup is good to be served in regular basis, a colorful soup will be served with bread rolls, the *Caesalpinia sappan*...

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper....

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...Traditional drinks in Indonesia, including Bai Pletok, Wedang Secang and Jamu, are also added with *C. sappan* extract to promote their health benefits and to bring a pink color to the products (Sinsawasdi, 2012). Besides beverages, *C. sappan* heartwood extract can also be used as an ingredient in herbal soup to treat sore throat and cough (Moyeenudin et al., 2022). In terms of its role as a natural colorant, crude aqueous extract of brazilein from dried *C. sappan* heartwood has been used in several products such as wools, cosmetics and inks....

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