

Formulation and Evaluation of Herbal mushroom Coffee Powder as a Immunoboosting drink

Sharad V. Mali^{1*}, Nihal S. Shaikh², Majhar C. Shaikh³, Sujit N. Shelake⁴, Nagesh H. Shendge⁵, Shubham D. Shelke⁶

Assistance Professor¹, Student², Student³, student⁴, student⁵, student⁶

ASPM'S K.T.PATIL COLLEGE OF PHARMACY, OSMANABAD M.S – 413501 India.

Corresponding Author: Sharad V. Mali* M. Pharm (Department of Pharmaceutics)

Abstract:- A formulation and Evaluation of instant mushroom coffee as a immunoboosting drink. mushroom Coffee was carried out by edible and beneficial mushroom. The main aim of study was studied Immunobooster activity of mushroom, also to studied various activity like anti-inflammatory, antioxidant antibacterial, cardiovascular, CNS stimulation, mood freshening activity of mushroom coffee. This result provide valuable information that mushroom hold great promise as highly effectivity immune boosting agent. Mushroom coffee is a trending coffee brew made with grind medicinal mushrooms and coffee beans. Common types of mushrooms used include Chaga, Lion's mane, Reishi, Cordyceps and Turkey's tail. Its consumption has been associated with many beneficial effects. These include, but not limited to, reduced risk of hepatocellular carcinoma, antiproliferative effect against some human cancer cell lines, therapeutic potential against Alzheimer's disease, and antioxidant capacity through modulation of nuclear translocation This result provide valuable information that Chaga mushroom (Inonotusobliquus) hold great promise as highly effective as an immunoboosting agent and four different types of herb are used in herbal coffee that is Tulsi. Ashwagandha, Ginger. Stevia. pharmaceutical branch of Ayurveda has contributed several innovative dosage forms. Conversion of dosage form into more suitable for modern era with additional benefits of palatability and presentation is always essential. clinical research on the health benefits of mushroom is limited & more reasearch is needed.

Keywords:- Mushroom Coffee, Antioxidant Activity, Chaga, Pharmacological Activity, CNS Stimulation, Cardiovascular Disease. Antidiabetic Activity, Immunomodulating Activity.

I. INTRODUCTION

[1]Coffee is currently the most common drink around the world therefore it has been listed as a food product in the world . [2] Mushroom coffee generally consumed for Its attractive test and aroma. [3] Mushroom coffee is usually a mixture of several ingredients, one of which is the main ingredient, such as chaga mushrooms and other herbal ingredients, or a combination of other ingredients, such as tulsi, ashwagandha, ginger, and stevia, which are expected to boost immunity. and relieve certain symptomatic

conditions.[4] This could be connected to the well-known advantages in treating numerous chronic conditions. Thus, herbal coffee are a part of the fast growing industry for wellness drinks. The presence of diverse secondary metabolites, which are responsible for their pharmacological activity and health benefits, is a common characteristic of the herbal ingredients that go into the recipe. In fact, many traditional remedies, particularly those for controlling chronic illnesses, are now offered as instant herbal mushroom coffee.[5] In recent times, instant herbal mushroom coffee are gaining popularity as consumers believe that they are natural, safe and can promote health(Akila et al., 2018).

[6] Mushroom coffee is a trending coffee made with ground medicinal mushrooms and coffee beans. Common types of mushrooms used include Chaga, Lion's mane, Reishi, cordecyps and Turkey's tail. Mushroom coffee is a delicate blend of ground mushroom and Coffee bean combined to brew a dark, smooth & nutty Mushroom generally uses medicinal mushroom extract rather than to Culinary mushroom like shiitake and portobello mushroom have numerous health benefits, as they have high level of nutrients and antioxidants which are great for immune system. The main benefits of mushroom Supplements are their antioxidant properties, cardiovascular protection, antibacterial properties and antinflammamatory. Clinical research on the health benefits of mushroom is limited and more reasearch is needed.

[8] Nowadays, consumers care about their health, so they demand more natural and healthy food, so coffee seems to be a good tool for that coffee seems to be a good vehicle in this respect because of its good taste and aroma. Hence coffee belongs to a quickly growing market of wellness beverages Coffee imparts several health benefits like weight loss, diabetes, heart diseases, alzheimer's and parkinson's blood pressure, depression, anti-viral, skin care. Coffee is often produced from the roasted beans of a great variety of coffee crops However, Coffee canephora and Coffee arabica are the two most economically important species. It can now be found in both organic and conventional types.

[7] **Chaga mushroom:-**Chaga mushroom (Inonotusobliquus) is high in antioxidants and plant compounds that maybenefit health.

Chaga is available as a herbal coffee and supplement. Consuming chaga mushrooms as part of a healthy, balanced diet may help reduce oxidative stress, lower "bad" cholesterol, and support immune function. The exact nutritional composition of chaga mushrooms is unclear. However, they are rich in antioxidants and several beneficial plant compounds, including-- triterpenoids, melanins, polysaccharides, polyphenols, flavans. While it is available as a supplement, people also typically use chaga mushrooms to make coffee and other infused drinks. This means that chaga infusions often do not have the same nutritional properties as the types of mushrooms that people consume whole.

➤ *TULSI* :

Tulsi scientifically known as *Ocimum sanctum* is considered as Queen of Herbs and described as a sacred and medicinal plant in ancient literature. It is derived from 'Sanskrit', which means "the incomparable one". Tulsi in ayurvedic medicine is being used in various clinical conditions like anxiety, chronic cough, bronchitis, fever, snake, and scorpion bites. It has various properties like Anti-stress, Antioxidant, Hepatoprotective, Immunomodulating, Anti-inflammatory, Anti-bacterial, Antiviral, anti-fungal, Antipyretic, Antidiuretic, Antidiabetic, Hypoglycemic, Hypolipidemic, Antimalarial, etc.

➤ *ASHWAGANDHA*:

Withania somnifera (L.) Dunal is fit to known as Indian medicinal plant which is usually used in the healing of many clinical conditions in India, also known as "Ashwagandha" contains a broad variety of significant substances in our bodies. It contains a large amount of steroidal alkaloids like anferine, somnine and withanolides, iron, fatty acids, antioxidants like glyco- withanolides and potassium nitrate. The constituents present in the leaves of this herb widely used in the ayurvedic medicines. While the root also contain the good amount of active compounds which are useful in several health diseases. Ashwagandha has been found to give strong antioxidant protection 17, boosts up the immune system cells, such as lymphocytes and phagocytes 18. 91 & counteract the effects of stress and normally imparts wellness

❖ *AIM*

Formulation and evaluation of instant herbal mushroom coffee as a immunoboosting drink by using the chaga mushrooms and four different type of herb such as Tulsi, Ashwagandha, Ginger, stevia .

❖ *OBJECTIVES*

To Prepare instant herbal mushroom coffee for immunoboosting activity To evaluate the formulation with various physical parameters

II. MATERIAL AND METHODS

All the herbal plant materials Collected were dried and finely grind powder . The finely grind roasted coffee powder, chaga mushroom powder Tulsi, Ashwagandha, Ginger, stevia powdered raw material passed through the sieve no. 45 and 1gm of chaga mushrooms powder , 0.5 gm of roasted L.arabica coffee powder, 0.5 gm of tulsi powder, 0.5 gm ginger powder, 0.3 gm of Ashwagandha powder and 0.2 gm stevia powder all drug were Weighed and mixed respectively. Coffee Powder has enhance the aroma and taste of coffee .All Powder mixture of instant herbal mushroom coffee powder 3 gm of powder mixture was packed in coffee bags.

Table no :- 1 . Formula

Sr.no	Ingredients	Quantity taken	Category
1.	Chaga mushrooms powder	10 gm	Immune Boosting Activity
2.	L.roasted arabica coffee powder	5 gm	CNS Stimulant
3.	Tulsi powder	10 gm	Antibacterial
4.	Ashwagandha powder	3 gm	Antioxidant

III. EVALUATION TEST

- **Colour and Odour** : Formulation of instant herbal mushroom coffee powder physical parameters like colour and odour were tested by the visual examination.
- **PH** :- Take a 3 gm of Sample mushroom coffee powder in a beaker and add 30 ml of water in it calculate the pH of Sample by using pH paper.
- **LOSS ON DRYING (LOD Test)** :Weight the empty china dish or crucible take 2gm of powder sample into it place these china dish is placed in hot air oven for 1hour and calculate weight of china dish frequently, repeat the same procedure until weight of petri dish become its equal take down the constant reading of loss on drying (LOD) of instant herbal mushroom coffee powder.
- **Water Soluble extractive value** :-Take 5gm of powder sample of instant herbal mushroom coffee powder In a conical flask add 90 ml of distilledwater and add 10 ml of chloroform keep it for magnetic stirring for 6 hours then keep a side it for 18 hours filter it and take 25 ml of filtrate from that evaporate it
- **Alcohol Soluble extractive value** : Take 5gm of powder sample of instant herbal mushroom coffee powder and drug mixture in a conical flask add 100 ml of alcohol into it keep it for magnetic stirring for 6 hours then place it for 18 hours filter it and take 25 ml of filtrate from that evaporate it

- **Ash value:** Weight of the empty crucible and then add 3 gm of herbal formulation weigh the crucible and place the crucible in a muffle furnace at 1000 c the sample allow to cool and calculate the weight of crucible subtract the weight of crucible with powder ash from empty weight of crucible.
- **Tapped density:**-It is calculated by tapping bulk volume of powder for 15 minutes Tapped density= weight of sample/tapped volume
- **HAUSNER RATIO:**-Housner's ratio of the powder was determined by following formula HausnerRatio =Tapped density/Bulk density.
- **Bulk density :** It is defined as total mass of particle divided by they occupy the volume. (g/cm³).
- **Percentcompressability:**Constant compressibility of a powder mixture was determined by carr's compressibility index calculated by formula. Carr's index- TBD-LBD TBD 100
- **Sensory evaluation :**
Sensory evaluation is a scientific regulation used to determine these characteristics of food and materials as they are perceived by the senses of touch, smell, sight, and hearing. Sensory proving is descriptive methods that qualifies and quantifies organoleptic properties of products. Quality attributes (color, texture, taste) of prepared coffee were studied

IV. RESULT

Table no : 2 Result

Sr.no	Evaluation test	Reading
1.	pH	7
2.	Loss on drying	1.11
3.	Ash value	0.80
4.	Bulk density	0.33
5.	Tapped density	0.45
6.	Hausner ratio	1.36

V. CONCLUSION

The study of the nutritional, phytochemical and antioxidant activity showed that chaga mushroom Coffee and the mixture of these coffee and mushrooms showed that they can be proven to be an excellent source of nutraceuticals and Flavouring agents Immunoboosting activity. Multiple health benefits featured in the blended coffee mixture make it a perfect physical and psychological health Rejuvenator. Although several health benefits are also credited to coffee. It may therefore can be a good idea to combine coffee with chaga mushrooms for developing flavoured coffee which not only adds to its appeal, but also palatability and thereby making it a miracle product in the context of human health. Since sensory appeal is paramount to consumers over health and nutritional benefits, the above infusions offer consumers a new option to traditional mushroom coffee beverages with flavoured or immunobooster drinks which can impart health benefits too.

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