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Research Article

Preparation of Herbal Soft Candy

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1. Introduction

"Candy" comes from Arabic qandi, derived from Persian qand, meaning "sugar". Candy is a sweet food prepared from fruits or vegetables like apples, ginger, mangoes, guava, carrot and citrus peels have been used to prepare candies.

- Importance of Herbal Candies An herb is a plant or part of a plant valued for its medicinal, aromatic or savourly qualities.
- Herbal drugs play a major role in systems of health in India; almost 70% of modern medicines in India are derived from natural products.
- The herbal products are much better than the allopathic medicines. Herbal products have lesser side effects and more therapeutic effects.

Advantages of Herbs

- Safety
- Efficacy
- Lesser side effects
- Compatibility with the human body

Types Of Candies

There are more than 2,000 kinds of candies are available. Candies are divided roughly into two main classes:

1. Creamy or crystalline
2. Amorphous or non-crystalline

- Hard candy
- Candy bars
- Chocolate candy
- Soft candy
- Medium hard candy
- Sugar free candy
- Chewing gum
- Jelly beans

3. Formulation Development of Herbal Candy

- Sweeteners
- Acids
- Fats
- Gelatin
- Flavors, Salt and Vegetable Oil

2. Procedure for Making Candy

Various steps for making candy at industry level are

- Mixing and cooking
- Aerating
- Molding
- Cooling
- Coating

Soft candy had been developed because the simple manufacturing, and has sensory pleasure. The main ingredients of hard candy are sucrose, water, gelling agent.

- In addition, gingerol, shogaol, and zingeron has analgesic, anti-inflammatory, antibacterial, antioxidant, hypolipidemic, activities.
- Ginger rhizome is commonly used as cold medicine, anti-nausea, indigestion, and antipyretic. Based on researches above dried ginger extract can be used in the preparation of soft candy.

3. Review of Literature

3.1. Past work on Herbal Candy:

- Baber Shamrez, et al. Candy was prepared with 4 different combinations of to (control), sliced citron peel + 30% sugar + Potassium metabisulphite, T2 (Sliced citron peel + 40% sugar + Potassium metabisulphite and T3 (sliced citron peel + 50% sugar + Potassium metabisulphite) To establish the best product, sensory evaluation was done on 9-point Hedonic scale.
- Reena Hooda, et al. People, who visit to high altitudes, do experience certain type of health problems as they transit to different altitude ranges[1].

3.2. Past work on Ginger:

- Nur Illiyyin Akib, et al. Ginger rhizome (Zingiber officinale var. Rubrum) contains alkaloid, flavonoid, saponin, tanin, and triterpenoid that potentially as antibacterial and also gingerol, shogaol, and zingeron are efficacious as antioxidant[3].
- Rane Rajashree, et al. Two popularly known spices were selected for the preparation of Mouth Dissolving tablets (MD tablets) and candies[4].

3.3. Past work on Piper longum:

- Chauhan Khushbu, et al. Medicinal plants have shown tremendous potential for the development of the new drug molecules for various serious diseases.
- Manisha N Trivedi, et al. Piper species are reported to have great medicinal value in Indian medicine.

4. Drug Profile for Herbal Candy (Dried Ginger)

- Kingdom: Planta
- Species: Z.officinale
- Family: Zingiberaceae, **(Figure 1)**

Figure1: Dried Ginger

4.1. Chemical constituents

- Gingerol: A yellow pungent oily liquid and yields Gingerone, a ketone and aliphatic aldehyde.
- Shogaol: It is formed by loss of water from Gingerol.
- Volatile oils (1 to 2%): gingerol, citral, citronellal, limonene, camphene, borneol, cineole, phelandrene, zingiberene. **(Figure 2)**

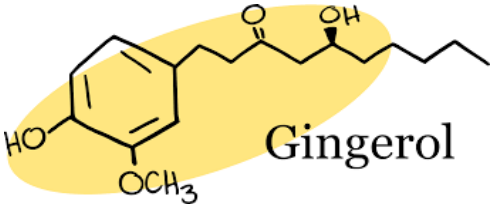

Figure 2: Chemical Constituents.

4.2. Applications:

- Ginger offers substantial protection from stroke and heart attack because of its ability to help prevent blood clotting.
- Ginger has a role in traditional ayurvedic medicine.
- It is commonly used for indigestion because it absorbs and neutralizes toxins in the stomach.

5. Piper Longum

Kingdom: Plantae

Family: piperaceae

Genus: piper

Species: p.longum

Bionomial name: piper longum **(Figure 3)**

Figure 3: Longum.

5.1. Chemical constituents

The spikes of this plant contain piperine and piplartine alkaloids

Essential oil, Mono and sesquiterpenes, caryophyllene, piperine, piperlongumine. **(Figure 4)**

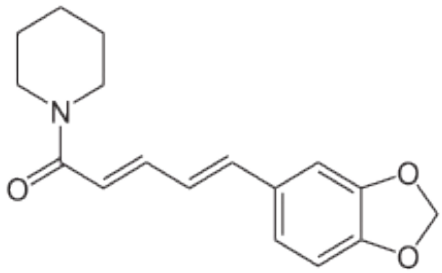

Figure 4: Chemical Constituents of Longum.

5.2. Applications piperine

Due to the multidimensional action of Pippali, it is very popular medicine since samhitā period of Ayurveda.

The roots have a Bitter, hot, and sharp taste. It is used as a carminative a tonic to the liver, stomachic, Abortifacient, Hematinic.

6. Methods of Herbal Soft Candy

Table1: List of Chemicals Used In Herbal Soft Candy

S.No	Materials	Suppliers
1	Dried Ginger	Local Market
2	Piper longum	Local Market
3	Sugar	Local Market
4	Gelatin	Vijaya scientific center
5	Menthol	Vijaya scientific center
6	Distilled Water	Vijaya scientific center

7. Methods Of Herbal Soft Candy

7.1. Selection of Herb

Dried Ginger:

- (Zingiber Officinale) is selected for the preparation of herbal candy. It is a flowering plant whose root is w i d e l y used as a spice and a folk medicine.
- Dried Ginger and its active constituents suppress the growth and induce apoptosis of variety of cancers of skin, ovarian, colon, breast, cervical, liver etc.
- Warming effect of ginger acts as antiviral for treatment of cold and flu. So, considering these properties it is selected for preparation of softy candy.

Piper longum:

- It is basically and popularly known as Indian Long Pepper.
- It is widely used to improve appetite and digestion, as well as treat stomach ache, heartburn, indigestion, intestinal gases, diarrhea and cholera.
- And due to its hot properties, it is used to treat Cold and Flu widely .so considering these properties it is selected for preparation of soft candy.

7.2. Preparation of extract

- Maceration process of Dried Ginger
- Maceration process of long Pepper **(Figure 5)**

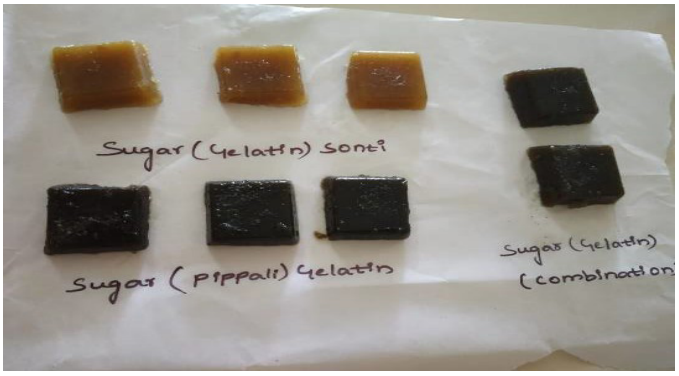

Figure 5: Herbal Soft Candy

7.3. Evaluation of Extract

Preliminary Phytochemical Analysis

- Tests for carbohydrates: Molisch test, Fehling test
- Tests for terpenoids: Salkowski test
- Tests for alkaloids: Mayer's reagent test, Hager's reagent test, Wagner's re
- Tests for glycosides: Legal's test
- Tests for flavonoids: Aqueous sodium hydroxide test, Concentrated sulphuric acid test
- Tests for polyphenols: Ferric chloride test

7.4. Preparation of Herbal Soft Candy

- Procedure for making dried ginger candy
- Procedure for making piper longum candy
- Procedure for making dried ginger & piper longum candy.

7.5. Evaluation of Herbal Soft candy

It is evaluated for texture, appearance, color, fragrance and taste.

8. Results and Discussions

Table2: Composition of all formulations of Herbal Soft Candy.

S.No	Ingredients	Quantity for 3g		
		F1	F2	F3
1	Dried Zinger Extract	0.3g	_	0.15g
2	Piper Longum Extract	_	0.3g	0.15g
3	Sugar	1.95g	1.95g	1.95g
4	Gelatin	0.3g	0.3g	0.3g
5	Menthol	0.15g	0.15g	0.15g
6	Water	Q.S	Q.S	Q.S

Table 3: Phyto Chemical Analysis of Dried Ginger Extract.

S.No	Name of the Test	Result
1	Carbohydrates Test	
	Molisch Test	Negative
	Fehling test	Negative
2	Tests for terpenoids	
	Salkowski test	Positive
	Antimony trichloride test	Positive
3	Tests for alkaloids	
	Mayer's reagent test	Positive
	Hager's reagent test	Positive
	Wagner's reagent test	Positive
4	Tests for glycosides	
	Legal's test	Negative
5	Tests for flavonoids	
	Aqueous sodium hydroxide test	Negative
	Concentrated sulphuric acid test:	Negative
6	Tests for polyphenols	
	Ferric chloride test	Negative
7	Test for saponins	Negative

- Dried ginger was analyzed for presence of carbohydrates, proteins, glycosides, tannins, saponins, polyphenols and flavonoids by using general identification tests. It consists of terpenes they are sesquiterpenes, and phenolic compounds like phenolic ketones of oleoresin
- Piper longum was analyzed for presence of carbohydrates, proteins, glycosides, tannins, saponins, polyphenols and flavonoids by using general identification tests. It consists of terpenes and alkaloids.

Table 4: Phyto Chemical Analysis of Piper Longum Extract.

S.No	Name of the Test	Result
1	Carbohydrates Test	
	Molisch Test	Negative
	Fehling test	Negative
2	Tests for terpenoids	
	Salkowski test	Positive
	Antimony trichloride test	Positive
3	Tests for alkaloids	
	Mayer's reagent test	Positive
	Hager's reagent test	Positive
	Wagner's reagent test	Positive
4	Tests for glycosides	
	Legal's test	Negative
5	Tests for flavonoids	

	Aqueous sodium hydroxide test	Negative
	Concentrated sulphuric acid test:	Negative
6	Tests for polyphenols	
	Ferric chloride test	Negative
7	Test for saponins	Negative

8.1. Preparation of herbal candy

Take all the ingredients and weigh them according to the required quantity. Take the gelatin in a beaker, add water to it soak for 10 minutes. Take the sugar in a china dish, add required quantity of water to it, boil for few minutes until thick consistency appears, add gelatin then add herbal drug and stir properly, add menthol by stirring, pour the mixture in the suitable mould and store under suitable temperature.

8.2. Physical parameter of soft candy

It is having soft texture, good appearance with acceptable color, fragrance and taste

9. Conclusion

The following conclusion were made from these experimental results.

1. Soft candy was prepared with herbal drug.
2. Dried ginger and Piper longum are selected for Herbal candy.
3. Maceration is used for extraction of Piper longum and Dried ginger.
4. Extract was evaluated by Phyto chemical analysis like presence of carbohydrates, proteins, glycosides, saponins, polyphenols and flavonoids.
5. Candy was evaluated by soft texture, fragrance, acceptable color and taste.

10. References

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