



PREPARATION AND DEVELOPMENT OF HERBAL JAM

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Abstract : Herbal Supplementation to enhance human physical performance has had little scientific study, but it represents a large and valid field for future study. Herbal remedies are widely used for the treatment and prevention of various diseases and often contain highly active pharmacological compounds. There is recent increasing interest in alternative/herbal medicine for the prevention and treatment of various illnesses. As Ayurveda is foremost among the traditional health practices in the world, traditional inspired practical approach should be made in preparing prime quality preparations. The plant kingdom has provided an endless source of medicinal plants first used in their crude forms as herbal teas, syrups, infusions, ointments, liniments and powders. Aim is to Develop an Herbal Jam using the healthy herbs such as Mint, Aloe vera, Basil, Hibiscus and Ginger. It is made to provide nutritious and quality enriched food to the consumer and to maintain good health and enhance the immune booster of our body. And it is also a very good source of Antioxidant and Phytonutrients.

Index Terms: Ayurveda, Herbs, Medicinal plants, Antioxidant, Phytonutrients.

I. INTRODUCTION

Herbs are a widely distributed and widespread group of plants, excluding vegetables and other plants consumed for macro nutrients, with savory or aromatic properties that are used for flavoring and garnishing food, for medicinal purposes, or for fragrances. Culinary use typically distinguishes herbs from spices. Herbs generally refers to the leafy green or flowering parts of a plant (either fresh or dried), while spices are usually dried and produced from other parts of the plant, including seeds, bark, roots and fruits. [2]

Jam is made from crushed pulp of fruit and sugar. Jam will hold its shape. It is made from single or mixture of fruit and conserves. When we include citrus fruit, nuts, raisin it is called Fruit preserve. [1]

1.1 Jam preservation

The making of jellies and other preserves is an old and popular process, providing a means of keeping fruits far beyond their normal storage life and sometimes making use of blemished or off-grade fruits that may not be ideal for fresh consumption. [5]

The essential ingredients for a successful preserve are sugar, acid, and pectin. These three ingredients lower the pH of the preserve and bind available water, thus creating an environment in which the growth of microorganisms is retarded. Eg: Pasteurization. [3]

1.2 Benefits of herbs

- * Aloe Vera help to soothe skin injuries affected by burning, skin irritations, cuts and insect bites. [7].
- * Aloe is a powerful detoxifier, antiseptic and tonic for the nervous system and it also has immune-boosting and anti-viral properties.
- * Hibiscus extract is rich in powerful antioxidants and may therefore help prevent damage and disease caused by the buildup of free radicals
- * Hibiscus Help Lower Blood Pressure, Blood Fat Levels, Boost Liver Health and it Could Promote Weight Loss, Contains compounds that may help prevent Cancer. [6]
- * Ginger contain gingerol that Can help with osteoarthritis, it may drastically lower blood sugars and improve heart disease risk factors, it Can help treat chronic indigestion
- * It improve brain function and protect against Alzheimer's disease and it may significantly reduce menstrual pain [9].
- * Basil can reduce depression related to chronic stress, Reduce stroke damage and support recovery.
- * Basil can protect against aspirin's damage to your gut, particularly preventing ulcers and prevent certain

cancers, including of the breast, colon and pancreas [8].

- * Mint resolves Gastrointestinal Problems, Anti-allergic properties, Relief from Common Cold, Improves Brain Functions, Eliminates Bad Breath, it Relieves Morning Sickness and Easy to Digest.[10].

II.METRIALS AND METHODS

2.1 Selection and Procurement of the Raw Material

Selection of raw materials for Herbal Jam. Some herbal ingredients are collected from Gandhigram Rural University premisses on before day and lemon, sugar , mint were bought from nearby chinnalapatti store.

2.2 Pre-preparation of raw material

Preparation of Aloe Vera Pulp

Wash the hands. Its important to act clean hands and use clean tools to make sure the gel doesn't get contaminated. Peel the leaves are remove the hard portion of Aloe vera. Separate the gel from the aloe vera wash and drain the aloe vera gel for 3-4 times to reduce the bitterness and smash the gel into semi liquid point

Preparation of Hibiscus Extraction

Take 30 petals of hibiscus flower and wash each petals drain and put the petals in bowl. Add water until the petals immersed and the boil the petals until the colour leachout, remove the petals from the bowl and filter the extract of hibiscus.

Preparation of Mint and Basil

Take 21g mint and 19g of basil wash each of the leaves using water and drain. Add water until the leaves immersed and boil the leaves for 5 minutes. Then filter the extract of basil and mint.

Preparation of Ginger Extract

Wash the ginger, peel the outer layer of skin. Cut the ginger into small piece and crush the ginger to extract the juice.

Preparation of Herbal Jam

Take the pan and pour the aloe vera gel. Then cook the aloe vera gel until the size minimize. Add the hibiscus extract into the gel. After absorption of colour add basil and mint extract. Then add 5 drops of ginger extract. Add equal portion of sugar into the herbal mixture. Cook well finally add 3 drops of lemon juice pour a small quantity of jam in a small air light container. Time required for making jam is 1hr. Then place the jam in refrigerator for 8 hours.

Fig.2.2.5 Prepared Herbal Jam



Test For Doneness

- * Sheet test: The mixture is allowed to drip from a large cool spoon. If the syrup forms a sheet instead of two separate drops the jam is done.
- * Bubble test: When the end point reaches, big bubbles can be seen throughout the jam.
- * Plate test: Set a plate in the freezer for some time. Put the jam and tilt the plate slowly. The jam should come down as a whole mass forming U shape. Water should not separate out.
- * Fork test: Dip the fork into jam or jelly. Jam of correct consistency forms a sheet between the needles of the fork.

Assessment of Sensory Evaluation of The Product

Sensory evaluation was performed by 50 panel members to identify the acceptable quality of prepared herbal jam by using 9 Point Hedonic Rating Scale Score Card

- * Like extremely
- * Like very much
- * Like moderately

- *- Like slightly
- *- Neither like nor Dislike
- *- Dislike slightly
- *- Dislike moderately
- * Dislike very much

Assessment of Nutritive value and Antioxidant value of the Product

Based on the opinion, judgment, and acceptability score given by the panellist the recipes were selected and the nutrients analysis (energy, carbohydrate, fibre) was calculated. Antioxidant activity can be measured by a variety of methods that include vitamin analysis, mineral analysis. The antioxidant activity is calculated by determining the increase in the absorbance at different concentration by using equation .This can be used to identify the quantity of antioxidant in the product. This can be used for boost up the immunepower of humans.

III.RESULT AND DISCUSSION

3.1Sensory Evaluation of Herbal Jam

The quality of any food product is assessed by means of human sensory organs, the evaluation is said to be sensory subjective or organoleptic, the quality contributes the colour, appearance, flavour, taste,texture and overall acceptability of foods are evaluated by selective panel members. Sensory quality is a combination of different senses of perception coming into play in choosing and eating a food. Appearance, flavour and mouth feel decide the acceptance of food. The effective characteristic is not the property of food but the subjects reaction to the sensory qualities of food. Result of the acceptability of the herbal jam are presented in following table.

Table:1Sensory Evaluation of Herbal Jam

Hedonic Rating Scale	Appearance/ Colour	Taste/ Flavor	Smell/ Odour	Texture/ Mouthfeel
Like extremely	18	21	22	33
Like very much	18	12	18	10
Like moderately	13	15	10	5
Like slightly	-	1	-	2
Neither like or dislike	-	-	-	-
Dislike slightly	-	-	-	-
Dislike moderately	-	-	-	-
Dislike very much	-	-	-	-
Dislike extremely	-	-	-	-

Table shows that sensory evaluation,36%(18) of panel members rate the appearance and colour of herbal jam like extremely. 36%(18) of panel members rate the appearance and colour of herbal jam like very much. 26%(13)of panel members rate the appearance and colour of herbal jam like moderately and 2%(1) of panel members neither like nor dislike the appearance.

42 %(21) of panel members rate that taste and flavor of herbal jam like extremely. 24%(12) of panel members rate the taste and flavor of herbal jam like very much 30%(15) of panel members rate that taste and flavor of herbal jam like moderately and 2%(1)of panel members like slightly and 2 %(1) of number neither like nor dislike.

44% (22)of panel members rate the smell and odour of herbal jam like extremely. 36%(18) of panel members rate the smell and odour of herbal jam like very much. 20%(10) of panel members like moderately.

66%(33) of panel members rate the texture and mouthfeel of herbal jam like extremely. 20%(10) of panel members rate the texture and mouthfeel of herbaljam like very much. 10%(5) of panel members rate the texture and mouthfeel of herbal jam like moderately and 4% (2)of panel members like slightly.

3.2 Nutrient and Antioxidant Analysis of Herbal Jam

Table:2 Nutrient and Antioxidant analysis of Herbal Jam

Nutritional Information for 100 gm		
S.No	Parameter	Results
1.	Energy	328kcal
2.	Carbohydrate	79.2g
3.	Dietary fiber	1.3g
4.	Zinc	0.7mg
5.	Vitamin A (Beta carotene)	2.6mcg
6.	Vitamin C	10.5mg
7.	Vitamin E	0.8mg

Table shows that the Nutritive information for 100g of Herbal Jam gives 328kcal of Energy, 79.2g of Carbohydrates, 1.3g of Dietary fiber, 0.7mg of Zinc, 2.6mcg of Vitamin A, 10.5mg of Vitamin C, 0.8mg of Vitamin E.

IV. Conclusion

From the above study was carried out with the objectives of successfully developed. It can be concluded that the developed Herbal Jam provided adequate amount of carbohydrates. It is also good source of minerals (calcium, iron, zinc) and phytonutrients. (Vitamin A, Vitamin E, Vitamin C).

V. Recommendation

Creating awareness and encouraging consumption of Herbal Jam fromherbal supplements which allows people to develop healthy eating habits and to maintain good health and enhance the immune system of our body.

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