

Formation of Waffle Cone by incorporating Pomegranate Peel Powder

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ABSTRACT

In this study pomegranate is a fruit with many health benefits including the whole fruit. The fruit along with its peel and seeds has numerous benefits. It helps in promoting blood circulation, possesses anticancer activities etc. In this study we have used the pomegranate peel as the main bioactive ingredient. In today's era, people are shifting towards diet plans with nutritious and traditional food products. To meet the demands, we have incorporated the pomegranate peel powder to waffle cones made up of two types of different flour wheat and maida. Waffle is one of the many favorite food products for all age groups of people. It is mainly focused in making healthy waffles by incorporating pomegranate peel powder. It also has a lot of antioxidants and antibacterial effects to increase the shelf life of the product. We have analyzed the parameters of different proportions of waffle cone and finding out the best nutritious waffle cone. The optimized waffle showed less moisture content (0.4, 0.1, 0.25) as compared to the control samples, high in ash content (0.7, 0.3) and low in water activity (0.024, 0.017, 0.014).

1. Introduction

Pomegranate is a fruit which is most available and has a delicious taste. It is also loved by children and people of all age groups. It also has lot of health benefits. Pomegranate peel which is 50% of the fruit considered as waste and discarded. But it has various polyphenols, good for cardiovascular disease (given reference). Waffle is one of the favorite food products of all people. It is used to make healthy waffle by incorporating Pomegranate Peel Powder. It is also having lot antioxidants and antibacterial effects to increase the shelf life of the product. It is incorporated in the way of powder after drying and grinding process. Pomegranate peel has high content of Ellagitannin antioxidant in it. The other main use of pomegranate peel is used as food preservative in the food products. It is rich in phenolic content as well as used as food additives. we have utilized the nutritious waste to functionalized the waffle cone and analyzed the parameters present in the waffle cone. The health benefits of pomegranate peel powder is to prevent chronic disease, helps to improve brain functions, it has anticancer properties.

2. Materials and Methods

Pomegranate fruit was bought from commercial market. Then the fruit was cleaned and washed. The peel is separated from the fruit and cleaned again. Then the peel is cut into small pieces and dried in the cabinet drier at 60°C - 65°C. Then ground to fine powder using mixer. Pomegranate peel powder was sieved and unwanted

materials were removed. Finally, the fine pomegranate peel powder prepared. Maida is made from wheat grains has so many nutrition such as fiber, vitamin and iron etc. Egg contains vitamin A, B5, B12 etc. Butter contained vitamin D and it helps to make skin healthier. Jaggery powder is one of the best alternatives for white sugar. It purifies the blood, respiratory tract and also improves the immunity.

3. Methodology

It is making already available product in the market. By this we can analysis the difference of our product, the control sample is considered as a standard in the overall product. First weighing of raw materials such as maida, jaggery powder, butter and eggs. Mix sugar, jaggery and pomegranate peel powder as well as baking powder. Then mix the wet ingredients like egg, butter and vanilla essence in it. Mix both the wet and dry ingredients. Turn on the waffle for 5 min to heat it up. Pour the batter in the waffle maker. Then make waffle cone using waffle cone maker.

Table 1

Sl. No.	Sample	Moisture	Ash	Water Activity	Antioxidant Activity
1	Control Sample	7.5	1.8	0.653	4.5
2	Sample 1	7.1	2.5	0.629	6.38
3	Sample 2	7.4	1.75	0.636	6.42
4	Sample 3	7.25	2.1	0.639	6.52

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4. Analysis

The proximate analysis of control and pomegranate peel incorporated sample are presented in Table 1. In this the gradual decrease in moisture, water activity content and also increase in antioxidant activity was observed. There is a gradual increase in ash content.

Control Sample: Maida (50g), Sample 1: Maida + Pomegranate Peel powder (30:20), Sample 2 Wheat + Pomegranate Peel Powder (30:20), Wheat + Maida + Pomegranate Peel Powder (15:15:20)

5. Result

Thus, the product has been formulated by the incorporation of pomegranate peel. Hoping the best product should be made by incorporation of pomegranate peel powder. Pomegranate peel is easily available and is an excellent source of antioxidants and antibacterial properties. We have utilized this highly nutritious fruit peel by incorporating it in a baked product serving as an effective functional food. Incorporating the pomegranate peel powder in waffle cone, which is one of the most enjoyed food product of these days will be an added benefit. Modifying the ratio of Maida flour for the preparation of waffle cone to increases the nutritional benefit of the final product.

6. Conclusion

Pomegranate peel powder supplementation in waffle cone resulted in good texture and taste of the product and thus

could be used as a potential alternative for synthetic bioactive in food manufacturing industries. It also has additional benefits of antioxidant potentials and storage stability. Addition of wheat, maida and pomegranate peel powder gives better taste and texture. Analysis revealed there is a gradual increase in antioxidant activity and ash content and decrease in moisture content and water activity. However, further analysis are needed to investigate other parameters of waffle cone.

7. Reference

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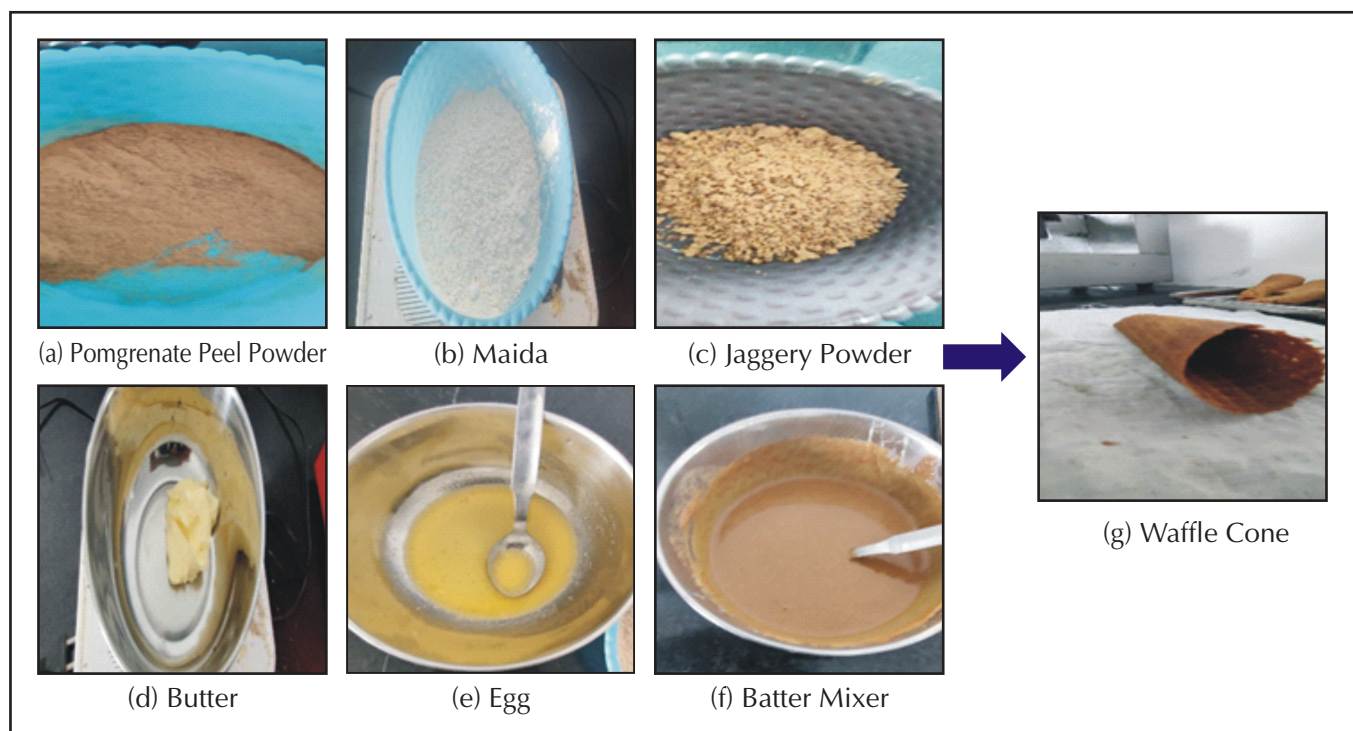


Figure 1

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