IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

PREPARATION AND EVALUATION OF NUTRITION SNACK BAR CONTANING TORBANGUN LEAF,BROWN RICE, OATS FLOUR, WHEY PROTEIN AND PEANUT BUTTER : A REVIEW

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ABSTRACT

The goal of this study is to use locally available ingredients to create a “nutrition” snack bar that provides both energy and electrolytes in one bar. This snack bar was made with Torbangun leaf, brown rice, oat flour, whey protein, and peanut butter as local ingredients. It is a healthy, wholesome food that is nutritious for people of all ages, from young children to the elderly. The prototype's approximate composition, total carbohydrate content, energy content, and sensory quality were identified. All consumers found the nutrition snack bar to have a desirable sensory quality and were highly accepting of it.

KEYWORDS : nutrition snack bar**,** peanut butter, brown rice , oats flour, electrolytes

Introduction

In recent years food industries are facing the challenge of emerging new products for health and quality of life. To obtain a healthy diet, there is a need to find new plant sources with a higher nutritive profile. Customers are also now giving more importance to healthy and nutritious quality food. There are countless value-added products in the market which are made from different sources such as milk, cereals, meat etc. Nowadays nutritional bars have become prevalent among people. It is very easy to manufacture and can be sold at affordable price depending upon the ingredients or material used. Snack bars can be considered as convenient means of supplying nutrients in our diets. [1] Among the variety of rice, brown rice is well known for its very high nutritional value when compared to the whole white rice. Brown rice is the whole grain with the removing of an inedible outer shell.[2] The nutritional components in brown rice mainly exist in the germ and bran layers, which are mostly removed by

polishing as an outcome.[3] Although carbohydrates are the main components in brown rice, it has a low glycemic index which is indicated low digestibility of the starch. In addition, brown rice is an brilliant source of functional components which covers important nutrients such as bioactive components, dietary fiber, B-complex vitamins, and minerals, which could deliver and endorse human well-being.[4] Scientific studies have been now shown that the consumption of brown rice in human and animal reduces the risk of type-2 diabetes, heart diseases, cancer, and other chronic diseases.[3,5] In the food industry, brown rice was found that it has the potential for the production of various human foods due to its suitable form.[6] Brown rice is well known for the whole rice grain that has undergone the dehulling procedure. Deprived of dehulling process, the bran layer is still wrapped up with the grain. Hence, brown rice is more nutritious than milled rice

REVIEW OF WORK

Hindmarsh, et.al., (2009). Has reviewed that High-protein snack bars (protein bars) contain high-quality protein, sugars and other low molecular weight polyhydroxy compounds (PHCs), high-energy confectionary fats, and a minimum of water.

R. Bhattacharya, et.al., (2013) has reviewed that Various product, such as snack bars, crispies, rice cakes, crackers, chips and rice drinks are also manufactured and marketed in industrialized countries.

Phil Kelly, et.al., (2019) has examined how the market for protein snack bars has experienced phenomenal growth in recent years (for instance, sales increased by 26% in the USA between 2010 and 2015), which has given dairy companies excellent opportunities to supply protein-based ingredients to the manufacturers of such snack bar products.

D.K. O'Toole et.al. (2016) has demonstrated that, literature states that A nougat candy based on peanut, glucose, hydrogenated oil, sugar, and natural essences with added okara has been developed in Argentina. The candy contains 18.3% okara and 27.4% peanut

L. Rodgers, et.al., (2016) has concluded that, Ribbon or Tumble Blenders Predominantly used for mixing in dry applications, e.g., cake mixes, flour, cereals, snack bars, spices and herbs, tea, coffee (whole or ground beans).

P.G. Kopelman, et.al., (2013) has reported that, Meal replacements are other category of calorie-controlled diets. They consist of low-calorie frozen meals, snack bars, and smoothies with added nutrients. A complete meal or snack is swapped out for a prepared, portion-controlled meal or beverage that offers between 840 and 1260 kJ (200-300kcal)

Material and method

Snack bar base preparation

Constituents for making snack bar base include win sugar to(250 g) pure water(125 ml), oats flour(200g) coconut milk(225 ml), reconstitute milk(225 ml), table sugar(100g) and oral rehydration swab(5g). All the constituents used were carried from original request(pasaraya pantai timur, Kuala Besut, terengganu). Dry constituents similar as tenacious rice flour and oral rehydration swab were blended with wet constituents(water, reconstitute milk, and coconut milk), the admixture was also hotted with constant shifting for roughly 15 min. Other constituents(table sugar and pre- dissolved win sugar) were also added into the admixture. The paste was stirred continuously for roughly 1 hr till it came thick and freely sticks on the work the snack bar was allowed to cool previous to snack bar medication.

Ingredients used

1. Torbangun leaf extract
2. Brown rice
3. Oats flour
4. Whey protein
5. Peanut

Snack bar filling making

The cooled snack bar base was rolled and cut into Strip (70 × 20 × 5 mm). The banana puree (11/2 tsp) was placed and spread evenly on the strip and layered with another strip.

Tempering chocolate :

Milk chocolate block was bought from Beryl's chocolate and confectionery from local market. Seed tempering method as Described by Cargill (2011) was referred to temper chocolate prior used. Untempered milk chocolate chunks were liquefied at temperature 45^{o} C. About 4 large chunks of tempered chocolate were added and stirred continuously so as to cool the chocolate to temperature (30°^{C}) and provide "seed" crystals as they melt. The tempered chocolate was kept warm (32^{oC}) to avoid over-seeding and mixed occasionally to maintain a steady temperature previously used.

The Snack Bar Assembly

empered chocolate was poured evenly into the mould (about 5 mm thick). Bubble rice (0.5 g) was then placed onto chocolate. A layer of base Ingredient strip was placed on the bubble rice. The Pre-roasted peanuts (1g) were then placed randomly On the strip and finally coated with tempered chocolate (approximately 5 mm thick). The end product was then cool in the refrigerator at 10°C for 1 hr prior analyses.

FROMULATION OF SNACK BAR

Torbangun leaf Extraction:

Torbangung leaf was sorted and washed

↓

Balanced (80°C) for 30 seconds

↓

Dried in oven (60°C -65°C) 5-7 hrs.

↓

Blended until smooth

↓

Seived (mesh 80)

↓

Torbangun powder

Prepration of composite flour

(oat flour&brown rice flour) in different ratios

↓

Add torbangun leaf extract

↓

Dry mixing

↓

Wet mixing

↓

Homogenization minutes

↓

Molding

↓

Chilling and packing

↓

Storage

Evaluation Of Snack Bar

The bars are frequently made using a base of cereals similar as torbangun splint, brown rice, oats flour, and peanut adulation fortified with vitamins, minerals, and other nutrient- or energy-rich constituents.

- Flowchart of snack bar production process
- Baked bars
- Baked bars with filling
- Cold-formed snack bar

Modern trends

Trends in health and heartiness in food and potables have increased more and more in recent times, as consumers are turning to lower reused and further natural druthers than regular products. likewise, nutritive snacks are suitable products that can give energy and micronutrients to both healthy people and people from areas affected by shortage of the world. Cereal bars are veritably adaptable products made from reused cereals mixed with a variety of constituents depending on the target population group. Wheat and soy snack bars were designed as nutritive bars to give nutrients to consumers on the run. Walnuts were successfully used in the manufacture of snack bars with good nutritive and sensitive quality. In recent times, the demand for high- protein snack bars has grown significantly by the people engaged in sports conditioning and overeating and as mess backups. These snack bars give a healthy volition to conventional snacks due to their high content of protein(15 – 35, w/ w) and other nutritionally salutary constituents.

Conclusion

In comparison to current options, the nutrition snack bar made with locally sourced constituents handed was simple, handy, and healthier. geste regarding the consumption of sports drinks to replenish electrolytes also, the snack bar created for this study had a composition close to that of nutrition bars vended on the request. The results of the sensitive evaluation revealed that the " energy " snack bar made with traditional food (dodol) and added electrolytes had a high position of consumer acceptance and had a great deal of marketable eventuality. Those who bear quick energy or nutrition recovery and electrolyte loss ahead, during, and after exercise are advised to use this product. Especially for breaking the fast during the fasting month, the " nutrition " snack bar can be consumed as a ready- to- eat, healthy appetizer.

Acknowledgement

The management and staff of Sri Sai College of Pharmacy in Badhani, Pathankot, are grateful to the writers for Providing the amenities they deemed necessary. We gratefully acknowledge the invaluable assistance provided by Ms. Diksha Dhiman (Supervisor), Pharmacy Department, Sri Sai College of Pharmacy, Badhani, Pathankot

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