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Standardization and development of different types of energy bars

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Abstract

The objective of present investigation was Standardization and development of different types of Energy Bars. Development of different type of energy bars i.e. oats banana energy bar and coconut energy bar. The organoleptic evaluation of products was done by using score card method (9-Point Hedonic Scale). The result of oats Banana energy bar, and coconut energy bar (T1) were best in all treatments in case of all sensory attributes. The overall acceptability of experimental (T1) Oats Banana energy bar and Coconut energy bar were 9.0, 9.0 respectively.

Keywords: Nutri-grain, Power bar, sweeteners.

Introduction

Energy bars are supplemental bars containing cereals and other high energy foods targeted at people who require quick energy but do not have time for a meal. They are different from energy drinks, which contain caffeine whereas bars provide food energy.

Energy in food comes from all three main sources: fat, protein, and carbohydrates. A typical energy bar weighs between 45 and 80 g and is likely to supply about 200–300 Cal (840–1,300 kJ), 3–9 g of fat, 7–15 g of protein, and 20–40 g of carbohydrates.

Nutri-Grain is a breakfast cereal made from corn, oats, and wheat. The pieces are shaped like rectangles with three holes in them (Australia, New Zealand). The South African cereal consists of pieces made of three interconnected circles.

Power Bar, Inc. is an American maker of energy bars and other related products (particularly sports drinks, gel-based foodstuffs for distance athletes, and the Pria bars targeted at women.

Protein bars are targeted to people who primarily want a source of protein that doesn't need preparation (unless homemade). There are different kinds of food bars to fill different purposes. Energy bars provide the majority of their food energy (calories) in carbohydrate form. Protein bars are usually lower in carbs than energy bars, lower in vitamins and dietary minerals than meal replacement bars, and significantly higher in protein than either. Protein bars are mainly used by athletes or exercise enthusiasts for muscle building.

Objectives

To standardization and develop the energy bar.

Materials and Methods

The present investigation entitled “standardization and development of different types of energy bar” was carried out to standardize energy bar. The study was conducted in department of food and nutrition, faculty of home science, KNIPSS Sultanpur.

Justified, judicious and scientific methodological consideration is indispensable for any investigation to deduce meaningful interferences concerning the objectives of the study. The study design reflects to the logical manner in which units of the study are assessed and analyzed for the purpose of drawing generalizations. Thus, with the view of available resources, the best procedures for taking correct observation should be first sorted out in a logical manner so that unbiased interference can be drawn. This chapter delineates information pertaining to the research design and methodological steps used for investigation. The research procedure has been distinctly described as under in the following heads:

- Procurement of material
- Processing of raw material
- Development of energy bar
- Sensory evaluation
- Statistical analysis

Procurement of material

For the present investigation material i.e. oats, coconut, butter, sugar, condensed milk and dried fruits were procured from the local market of Sultanpur city. The procuring was done in single a lot to avoid variation compositional differences so that the quality differences should be ruled out.

2. Processing of raw material

The materials were subjected to cleaning, washing and drying in the following manner.

Cleaning: The material was cleaned and then rinsed to remove dirt, dust and other adhering impurity.

Roasting: Roasted peanuts.

Powder making: The dried material was converted into powder separately through grinder.

3. Development of energy bar

Table 1: Coconut Energy Bar

Ingredients	Amount
Butter	50 g.
Sugar	100g.
Condensed milk	50g.
Peanut, almond, cashew	50 g.
Coconut powder	100 g.
Vanilla essence	5 drops
Coco powder	20g

Table 3: Evaluation of Oats with Banana energy bar

Sample	Flavor & taste	Body \ texture	Color & appearance	Overall acceptability
Organoleptic T1	9.0	9.0	9.0	9.0

This table shows that developed oats with banana energy bar was obtained maximum 9.0, 9.0, 9.0 and 9.0 for the flavor & taste, body & texture, colour & appearance and overall acceptability respectively. This indicated that developed energy bar was fallen under the category of “Liked Extremely”.

Similarly reported that protein is a huge piece of creating a healthful product for its key demographic, which is why it recently launched think Thin Lean Protein and Fiber bars. Each 150 calorie bar delivers 10g of protein and 5g of fiber, while remaining a gluten-free product. The bars are available in Chocolate Almond Brownie, Chunky Chocolate Peanut, Salted Caramel, Honey Drizzle Peanut and Cinnamon Bun White Chocolate.

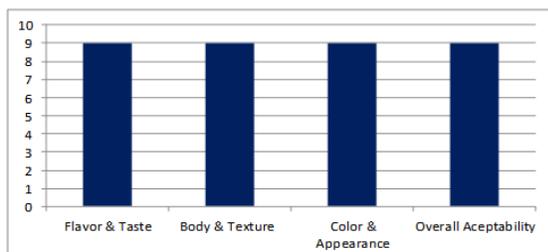


Fig 1: Mean overall acceptability of Oats with Banana energy bar

Method

- Mixed all ingredients in a bowl.
- Rolled in a shaped & applied dried fruits on it.
- Then pre heated oven at 350°F.
- Baked it at 150 °C for 30 minutes.

Table 2: Oats with Banana energy bar

Ingredients	Amount
Oats	200g
Banana	2 00g
Sugar	20g
Peanut	60g
Butter	50.g
Condense milk	10g
Baking powder	5g

Method

- In a bowl mixed all ingredients oats, banana sugar peanut butter condense milk and baking powder.
- Then rolled a shape of energy bar.
- Applied dried fruits.
- Baked in oven on 180°C for 30 min.

Result and Discussion

The data were collected on different aspects per plan were tabulated and analyzed statistically. The result from the analysis presented and discussed chapter in the following sequence.

Organoleptic evaluation of developed energy bars.

- Flavor and taste.
- Body and texture.
- Color and appearance.
- Over all acceptability.

Table 4: Coconut Energy Bar

Ingredients	Amount
Butter	50 g.
Sugar	100g.
Condensed milk	50g.
Peanut, almond, cashew	50 g.
Coconut powder	100 g.
Vanilla essence	5 drops
Coco powder	20g

Method

- Mixed all ingredients in a bowl.
- Rolled in a shape apply dried fruits on it.
- Then pre heat oven at 350°F.
- Baked it at 150°C for 30 minutes.

Table 5: Organoleptic evaluation of coconut energy bar

Products	Flavor & taste	Body \ texture	Color & appearance	Overall acceptability
T1	8.9	8.9	8.9	9.0

This table shows that developed oats with banana energy bar was obtained maximum 8.9, 8.9, 8.9 and 9.0 for the flavor & taste, body & texture, colour & appearance and overall acceptability respectively. This indicated that developed energy bar

was fallen under the category of “Liked Very Much to Liked Extremely”.

Similarly concluded that the objective of this research is to develop an “energy” snack bar supplying energy and electrolytes in one bar by utilizing local Malaysian ingredients. The local ingredients used to make this snack bar were banana, glutinous rice flour, and coconut milk. It is a wholesome nutritious food for different age groups from adolescents to elderly people.

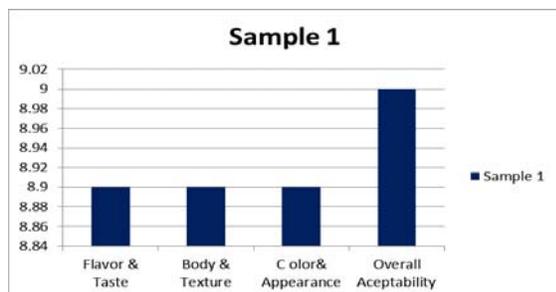


Fig 2: Mean overall acceptability of coconut energy bar

Summary & Conclusion

Energy bar are supplemental bars containing cereals and other high energy foods targeted at people who require quick energy but do not have time for a meal. They are different from energy drinks, which contain caffeine whereas bars provide food energy.

Nutri-Grain is a breakfast cereal made from corn, oats, and wheat. Protein bars are targeted to people who primarily want a source of protein that doesn't need preparation (unless homemade). There are different kinds of food bars to fill different purposes. Energy bar provide the majority of their food energy (calories) in carbohydrate form.

The present investigation entitled “standardization and development of Different types of Energy Bar” was carried out to standardize Energy Bar with this objective:-

➤ To standardize and develop the product.

The experimental work was carried out in the department of Food & Nutrition, Faculty of Home Science, and KNIPSS Sultanpur. To standardize and develop the Energy Bar required different materials like sugar, condensed milk, coconut etc. were used in the experiment would be purchased from the local market of Sultanpur.

- Developed oats with banana energy bar was obtained maximum 9.0, 9.0, 9.0 and 9.0 for the flavor & taste, body & texture, colour & appearance and overall acceptability respectively. This indicated that developed energy bar was fallen under the category of “Liked Extremely”
- Developed oats with banana energy bar was obtained maximum 8.9, 8.9, 8.9 and 9.0 for the flavor & taste, body & texture, colour & appearance and overall acceptability respectively. This indicated that developed energy bar was fallen under the category of “Liked Very Much to Liked Extremely”.

The developed products were given to the panel of 10 judges; products were tested for Flavor & taste, body & texture, color & appearance and overall acceptability. The organoleptic evaluation of products was done by using score card method (9-Point Hedonic Scale). The result of energy bar (T1) was best in all treatments in case of all sensory attributes.

The highest average score for all acceptability was found in experimental products made by developed energy bars were mostly accepted by panel member.

Recommendation

- Nutrient analysis of energy bar.
- Intervention of the energy bar to the school going children.

Limitations of the Study

- The study is carried out for short period so that time and other resource are limited to an extent.
- The sample size of this study was restricted and area of study was limited to KNIPSS, Faculty of Home Science Sultanpur.
- It was a sensory evaluation which has responded information with-out any alternative.

Acknowledgement

All glory to the almighty, whose blessing in the success behind this project praise pride and perfection belong to almighty. So first of all I would like to express my deepest sense of gratitude to the omniscient power of the universe, the almighty

God

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