



iJRASET

International Journal For Research in
Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 12 **Issue:** V **Month of publication:** May 2024

DOI: <https://doi.org/10.22214/ijraset.2024.62521>

www.ijraset.com

Call: ☎ 08813907089

E-mail ID: ijraset@gmail.com

Development of Dry Fruits Laddoo

Asim Desai¹, Dammadip Patil², Sulbha Walde³, Payal Meshram⁴, K. M. Deo⁵, Prashant Watkar⁶

^{1, 2, 3, 4}Department of Food Technology, Ballarpur Institute of Technology, India

⁵Assistant Professor, Department of Food Technology, Ballarpur Institute of Technology, India

⁶Head of the Department, Department of Food Technology, Ballarpur Institute of Technology, India

Abstract: The aim is to prepare Balls (laddoo) as a nutritional point of view and to provide convenience to the consumer. The ingredient which was used for preparation of balls is Dates (*Phoenix dactylifera*) which contains Energy: 282 cal, Protein: 2.5 g. Carbohydrates: 75 g, Fat: 0.4 g etc. Vitamin B-6 (PYRIDOXINE) is present. Minerals such as Calcium, iron, Magnesium are present in Dates. The flax seeds are very important in regular diet for humans especially for females. They increase nutrient absorption, help in weight loss, gluten free, rich in antioxidants and omega 3 fatty acids. Owing to these health benefits, dietitians and doctors advise to take flax seeds every day. Balls (laddoo) are good and typically made from various flours and dry fruits by various ways. Balls (laddoo) are usually round, sweet, small or large in size. For preparation of Balls (laddoo) ingredients used are pitted dates, flax seeds, almonds, cashews, Jaggery syrup, oats etc. all these ingredients were finely grounded. The formulation was made by varying levels of ingredients. For preparation of Balls (laddoo) all ingredients were roasted and then grounded into fine powder. The dates were pitted and then grounded in mixer grinder. All these grounded ingredients were made into dough by adding Jaggery syrup. Three trials have been done T1, T2, and T3 by varying proportion of all ingredients and T3 has been selected. Proximate composition of laddoo where fat content was found out to be $7.08 \pm 0.02\%$, the protein content is $7.85 \pm 0.09\%$, the total carbs are $58.40 \pm 0.07\%$, the energy in laddoo was 328.72 kcal and ash content is about $2.01 \pm 0.11\%$ respectively). It was concluded that the Balls (laddoo) can be stored for one month in High density polyethylene pouches at room temperature. These balls are rich source of iron so they satisfy consumer's needs.

Keywords: Convenience; Health benefits; Proximate composition;

I. INTRODUCTION

A. Dry Fruit Laddu - Healthy Energy Balls

Dry Fruit Laddu are healthy, sweet snacks made by Sam poornahara. It is one of the trending snacks made out of dry fruits with no sugar or dairy products added.

With zillion snack options, we are spoilt for choices today. However, the modern-day lifestyle has also rendered a relatively unhealthy lifestyle. Today every bite of ours needs to be taken very consciously. Healthy snacking can play a very crucial role in the upkeep of our health but the catch is in getting healthy snacks that tingle our tastebuds too. This is where Sampoorna's Dry fruit laddu comes in. We at Sampoorna, aim at not merely providing a snack but at being the catalyst to lifestyle change.

Dry fruit laddu is one of our many attempts to offer tasty and healthy snacks. This is but a baby step that will ultimately lead us towards healthy living. The Dry fruits laddu is a delicious snack for kids and adults alike. These healthy energy balls are made with only natural ingredients and are also gluten-free. They are a great way to enjoy some wholesome snacks. Make sure you try out dry fruits laddu! Get your hands on some of these healthy energy balls today!

If you would like to know all about these magic healthy energy balls, read more.

B. What is Dry Fruit Laddu?

The ancient Indian wisdom has always held that "We Are What We Consume". It is to be inferred that our energy, our productivity and even our thought process is profoundly influenced by what we eat. Eating healthy is necessary, not just to keep oneself disease-free but to lead a prosperous and happy life.

Dry fruit laddu is a snack that is in essence, a result of the ancient wisdom crafted as a solution to today's problem. A large population is slowly shifting to "conscious-eating" from a "satisfy the hunger" eating. Dry Fruits Laddu, a classic Indian snack is a perfect option for anyone opting for a conscious change in eating habits. It is tasty and packed with energy. Since it is made without sugar or jaggery, ghee or oil, honey or artificial sweetener, it automatically falls under the category of vegan. All it requires is just dates, dry fruits and some flavouring agents to get some healthy, wholesome dry fruit laddus!

C. How Does the Dry fruit Laddu Taste?

Dry Fruit Laddu tastes sweet and nutty. You would warm up to the subtle coconut flavour which catches upon you after a few bites. The sesame too, makes its presence felt only gradually. With figs and raisins bursting into your mouth rather unexpectedly, you are in for surprise in almost every bite of the delicious laddu. Neither tangy nor spicy, this laddu is easy on your palate and can be enjoyed by anyone and everyone. The dry fruit laddus made at Sampoorana Ahara do not contain any oil, ghee, honey, sugar or jaggery.

D. Is dry fruit Laddu Healthy?

Ideally, health should be the natural state of any living being. Nature is the best medicine. We at Sampoorana are on a mission to retain the myriad of goodness that nature bestows upon us through food. Dry fruit laddu is as healthy as it gets since it contains natural dried fruits with no sugar, jaggery, oil, butter or ghee.

These dry fruits haven't been on the fire nor have been processed through the factory. They are nature's goodies transferred directly from her lap to your pantry!

E. Why is Dry Fruit Laddu Healthy?

One of the most underrated food families is dried fruits. Since here we are talking about Dry fruit laddu which contains almonds, cashews, raisins, walnuts, pistachios, dates and apricots, let's dive into the nutritional benefits of these nuts in particular. Though all of them are nourishing and healthy, each comes with its own unique health benefits.

II. INGREDIENTS

40gm Cashews
40gm Almonds
5-7 Dates (use more if needed)
60gm Ghee
30gm Anjeer
30gm Walnuts
50gm Jaggery
20ml Water
10gm Cardamom

III. EQUIPMENT

Plates
Knife
Stainless steel bowl
Mixture
Gas Cylinder
Spoon

IV. METHODOLOGY

- 1) Roast nuts and dry fruits On a medium flame dry roast almonds and cashews until slightly aromatic.
- 2) Add pistas and cardamom for another 2 to 3 mins.
- 3) When they turn slightly golden, remove to a plate. Towards the end of roasting the almonds turn light and are easy to blend.
- 4) Turn off the stove and spread dates, Walnuts and anjeer in the hot pan. Please check them first for larvae or worms and deseed the dates.
- 5) When they become slightly hot, turn them to the other side as well. This is just done for shelf life. Avoid roasting them for long as there will be loss of nutrition.
- 6) Cool all these. If using seeds, roast them in the same pan until aromatic. Set them aside.
- 7) I never chop the nuts or dry fruits before adding to blender. But if you do not have a blender that is strong enough then it is good to chop them. Open up the cashews and check. If you have a food processor you can also use it. I prefer my steel jars for this.
- 8) I usually add the dates, Walnuts, anjeer first. Blend them in short intervals to a coarse mixture. Remove the mixture to a plate.

- 9) Add almonds and cashews.
- 10) Pulse them a few times.
- 11) During grinding of Dry Fruits prepare a Jaggery syrup
- 12) Mix up well with Jaggery syrup.
- 13) Divide the mixture to 10 to 12 portions. Gently roll to balls.. These ladoos are difficult to bite. So small portions are easier to enjoy.
- 14) Store the dry fruit laddu in air tight jar.

V. NUTRITION FACTS

Dry Fruit Laddu

Amount Per Serving 300 gm

Calories 91

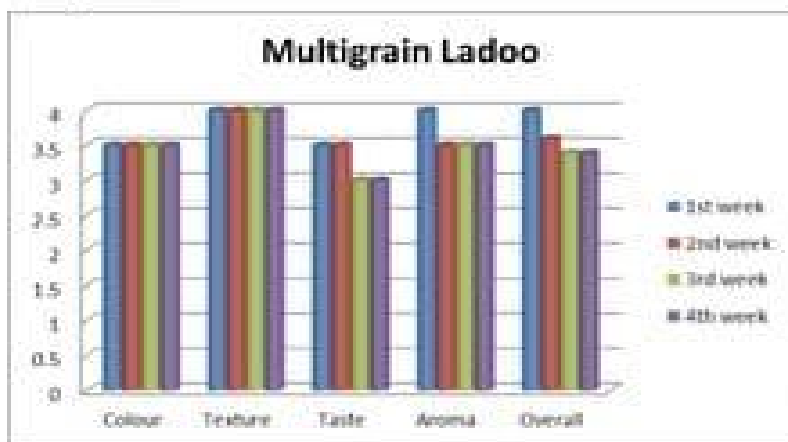
Calories from Fat 45

	% Daily Value*
Fat 5g	8%
Saturated Fat 1g	6%
Sodium 2mg	0%
Potassium 167mg	5%
Carbohydrates 10g	3%
Fiber 2g	8%
Sugar 6g	7%
Protein 2g	4%
Vitamin A 155IU	3%
Vitamin C 0.2mg	0%
Calcium 27mg	3%
Iron 0.8mg	4%

VI. SENSORY EVALUATION

SENSORY EVALUATION FOR SHELF LIFE STUDY

Fig.No.2:



From the above Fig No.2: It can be observed that colour and texture remained constant for all the 4 weeks. There is a slight decline in taste and aroma. Overall it remained good.

VII. COST ANALYSIS

NAME OF MATERIAL	QUANTITY USED	RATE RS/KG
Almonds	40 gm	33
Dates	20 gm	08
Cashews	40 gm	34
Ghee	60 gm	60
Anjeer	30 gm	32
Walnuts	30 gm	11
Cardamom	10 gm	12
Water	20 gm	-----
Jaggery	100 gm	10
TOTAL	350 gm	200

VIII. CONCLUSION

Consumer demand base food product formulation trends always motivating the researchers to formulate the food product with distinct sensory properties and health attributes.

The experiment was conducted to develop LADDU. with different composition.

It can be concluded that DRY FRUITS can be incorporated in suitable proportion in the LADDU which has many health benefits.

From the above study. also covers some of the risks associated with use.

It contains healthful plant compounds.

It has antioxidant and antibacterial properties.

It accelerates wound healing.

It helps treat canker sores.

It reduces constipation.

It may improve skin and prevent wrinkles.

REFERENCES

- [1] Ağçam, E., Akyıldız, A., & Dündar, B. (2018). Thermal Pasteurization and Microbial Inactivation of Fruit Juices. Fruit Juices: 309-339
- [2] Ahlawat, K. S., & Khatkar, B. S. (2011). Processing, food applications and safety of Dry Fruits products: a review. Journal of Food Science and Technology, 48(5), 525-533.
- [3] Ahsen, R. and T. Baysal (2011). Yield and quality effects of electroporation and microwave applications on carrot juice production and storage. J. Food Sci. 76,4
- [4] Akhtar S., Ali J., Bilal J. and Khan F. (2013). Studies on the preparation and storage stability dry fruits based drink. Middle East Journal of Scientific Research. 16. 191195.
- [5] Ames BN. (1998) Micronutrients prevent cancer and delay aging. Lett.: 102-103:5-18
- [6] AOAC Official method (2008) Applicable for the determination of Specific Gravity beer, Wort and non-pulpy fruit juice beverages
- [7] AOAC Official Methods of Analysis. The Association of Official Analytical Chemists.
- [8] 17th Ed. Arlington, Virginia, USA, 2005
- [9] Banjare K, Kumar M, Nanda HC, Karthikeyan S, Lakpale R (2014) Advances in herbal prospects processing and food products reseToxicolarches on Aloe Vera: a review. Int J Food Nutr Sci 3(3):28-34
- [10] Barboni T, Luro F, Chiaramonti N, Desjobert JM, Muselli A, et al. (2009)
- [11] Volatile composition of hybrids citrus juices by headspace solid-phase micro extraction/ gas chromatography/mass spectrometry. Food Chem 116: 382-390.
- [12] Barch DH, Rundhaugen LM, Stoner GD, Pillay NS, Rosche WA. (1996) Structure- function relationships of the dietary anticarcinogen ellagic acid. Carcinogenesis. 17: 265-269 Basu, A., & Penugonda, K. (2009).
- [13] Dry fruits: A heart-healthy fruit juice. Nutrition Reviews, 67(1), 49-56. Br J Gen Pract (49) 823-828.



10.22214/IJRASET



45.98



IMPACT FACTOR:
7.129



IMPACT FACTOR:
7.429



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089  (24*7 Support on Whatsapp)