



Review On: Nutrised Bar

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Abstract:

Any non-toxic dietary ingredient with scientifically demonstrated health advantages, such as illness prevention and treatment, is referred to as a nutraceutical. To conquer issues pertaining to women, such as PCOS, and men, such as health issues relating to the prostate, etc. A nutrised bar contains seeds such as fenugreek, sunflower, flax seed, and others. It is made using the seed cycling phenomenon and is said to be beneficial for menstrual issues. Our goal is to concentrate on both male and female reproductive health maintenance and diseases. Infertility, PCOS, and PMS symptoms in women. Infertility, testosterone levels, male erectile dysfunction, and prostate health.

Keyword: Nutraceuticals, Nutrised, Seed Cycling, Seeds, Menstrual dysfunction, Hormonal imbalance

Introduction: -

The words "nutrition" and "pharmaceuticals" combine to form the term "nutraceutical." The phrase refers to items that are separated from herbal goods, dietary supplements (nutrients), certain diets, and processed meals like cereals, soups, and drinks that serve as medications in addition to being nutritional supplements. In general, "nutrition + pharmaceutical" refers to the category of foods known as "nutraceuticals," which are important for promoting and preserving healthy bodily processes. Nutraceuticals are goods that are used as medication in addition to being utilized for nutrition. Nutraceuticals are naturally occurring bioactive substances with medicinal, disease-prevention, and health-promoting qualities. They can be used to treat male and female health issues such as prostate-related disorders and PMS as well as PCOS. Dietary supplements are crucial to overcoming these issues. As implied by the name "Nutri seed," the bar contains nutraceuticals such as fenugreek, pumpkin seeds, flax seeds, and other seeds. These seeds offer defence against a range of illnesses. We use the phenomenon of seed cycling to produce our Nutri seed bar. A recent fad that promises to help women with menstrual dysfunctions such as irregular periods, cramps, infertility, and menopausal symptoms (fatigue, hot flashes, etc.) is the seed cycling/seed rotation diet.

Objectives: -

1. To make nutritional bars for:

a) seed cycling;

b) maintaining female health

d) Maintaining male health

This straightforward method of preserving the hormonal imbalance—the fundamental cause of the diseases listed above—benefits most people.

2. These illnesses can have long-term, possibly irreversible effects. A person's confidence and morale may also be affected, and it may result in infertility and other organ-related issues like inflammation, high blood pressure, high cholesterol, and heart attacks.

3. We want to concentrate on both male and female reproductive health maintenance and diseases. Infertility, PCOS, and PMS symptoms in women. Infertility, testosterone levels, male erectile dysfunction, and prostate health.

Seed Cycling: -

- A natural therapy called "seed cycling" is said to balance hormones by controlling the hormones progesterone and estrogen in the second and first halves of the menstrual cycle, respectively.
- A recent fad that promises to help with female menstrual dysfunctions such irregular periods, cramping, infertility, menopausal symptoms (fatigue, hot flashes, etc.), and PCOS is the seed cycling diet. One of the main causes of all of these menstrual dysfunctions is the increased frequency of hormone imbalance in women.
- One of the simplest and most efficient ways to gently yet effectively support your hormones is through seed cycling. This easy exercise promotes balanced hormone levels, lessens PMS symptoms, increases fertility, and, in the event that menstruation is absent (amenorrhea), can help induce menstruation.

Let's learn about menstrual cycle first. It consists of four phases: -

1. Menstrual phase
2. Follicular phase
3. Luteal phase
4. Ovulatory phase

For our convenience we can compare the menstrual cycle with moon cycle as it also contains 28 days.

Days 1-14 (new moon to full moon) :- eat pumpkin seeds and flax seeds.

Days 15-28 (full moon to new moon) :- eat sunflower seeds and sesame seeds.

It is totally fine if your menstrual cycle is not of 28 days, you can adjust according to your cycle.

Materials and Methods used

FOODS/HERBS USED:-

We are making Bars and the compositions are given below-

1. SEED CYCLING-

❖ Bar 1 of Phase 1

INGREDIANTS	USES
Flax seeds	SEED
Pumpkin seeds	SEED
Gum Arabic	Binder
Desiccated coconut	Filler and Binder
Jaggery	Sweetening agent
Cardamom powder	Flavouring agent

❖ Bar 2 of Phase 2:-

INGREDIANTS	USES
Sunflower seeds	SEED
Sesame seeds	SEED
Gum Arabic	Binder
Desiccated coconut	Filler and Binder
Jaggery	Sweetening agent
Cardamom powder	Flavouring agent

- To be consumed daily 1 bar for 14 days and other bar for another 14 days.
- (Do not over consume, it may cause constipation)

1. Female health maintenance

INGREDIANTS	USES
Pumpkin seeds	SEED
Sesame seeds	SEED
Flax seeds	SEED
Sunflower seeds	SEED
Muskmelon seeds	SEED
Chia seeds	SEED
Gum Arabic	Binding agent
Jaggery	Sweetening agent

Method Of Preparation

- i. All the seeds are measured, weighed according to the required quantity.
- ii. All the seeds are roasted for 2-3 minutes.
- iii. If any filler is being used it is also roasted with the seeds.
- iv. Roast the cardamom for few minutes. Further, it is grounded separately.
- v. The seeds are grind with filler in a grinder until it is coarse in texture.
- vi. Now, take Gum acacia and shallow fry in Ghee. Let it cool then crush it.
- vii. Jaggery is taken in given quantity.
- viii. Now, mix Jaggery and Gum acacia with the grounded seeds mixture.
- ix. Add flavouring agent and mix well.
- x. Now weigh the dough and form Bars of it.

Ingredients Used With Their Uses:-**A. FLAX SEEDS :-**

A member of the Linaceae family, flax (*Linum usitatissimum*) has a crisp texture and nutty flavor.

- It has high fiber content
- It lowers cholesterol level
- It has high antioxidants
- It helps during menopause
- It has high level of Omega-3 fatty acids
- It stabilizes the sugar level
- It is good for skin and hair
- It is gluten free
- It is good for digestive health
- It fights cancer

B. PUMPKIN SEEDS:-

Pumpkins are members of the family Cucurbitaceae. Because of its affordable and eco-friendly qualities, *cucurbita pepo* L., *cucurbita maxima* Duchesne, and *cucurbita moschata* Duchesne are harvested all over the world.

- Boost metabolism
- Lowers the blood pressure
- Treat insomnia
- Lowers the bad cholesterol
- Reduce inflammation
- It has high level of Vitamin C and A
- Immunity booster
- Fiber rich
- Good protein source
- Improve health problems

C. SESAME SEEDS

Among the Pedaliaceae family's first oil crops exploited by humans is sesame (*Sesamum indicum* L.).

- Prevent cancer
- Reduce hypertension
- Reduce inflammation
- Keeps heart healthy
- Manage diabetes
- Fiber rich
- Boost metabolism
- Good for hair and skin

D. SUNFLOWER SEEDS

The sunflower, or *Heliobus annus*, is a member of the Asteraceae family.

- It balances the hormones
- It prevents cancer
- It treats depression and anxiety
- It controls cholesterol
- It treats insomnia
- It prevents heart disease
- It strengthens immune system
- Good for skin and hair

E. CHIA SEEDS

Known by several names, chia (*Salvia hispanica* L.) is an annual herbaceous plant native to northern Guatemala and southern Mexico. It is a member of the Labiate family.

- It reduces heart risk
- It has high fiber content
- It is loaded with antioxidants
- It improves digestion
- It is best for pregnant women
- It is good for dental health
- It is excellent in diabetes
- It boosts metabolism
- It built muscle and weight lose

F. WATERMELON SEEDS

The fruit that thrives in tropical climates is called *Citrullus lanatus*, which is the botanical name for watermelon. Water melons come in two varieties: monoecious and dioecious.

- Improve male fertility
- It boosts energy
- It controls blood sugar level
- It aids in diabetes treatment
- It is an immunity booster
- It is good for heart diseases

G. FENUGREEK SEEDS

Trigonella foenum-graecum, also known as fenugreek, is a leguminous herb in the Fabaceae family that is grown in North African and Indian countries.

- It reduces risk of diabetes
- It improves weight loss process
- It raises testosterone and boost sperm count
- It reduces inflammation
- It reduces risk of heart disease
- Rain relief

H. DESICCATED COCONUT

One significant member of the Arecaceae family, or the palm family, is *Cocos nucifera*.

- It stabilizes the blood sugar level
- It provides minerals
- Aids in weight loss
- It supports brain function
- It improves immune system
- It regulates proper function of thyroid gland
- It has high fiber content

I. CARDAMOM

Cardamom, also known as *Elettaria cardamomum*, is an evergreen perennial herbaceous plant that is pungent and aromatic. It belongs to the ginger family.

- It is good for gastrointestinal disorders
- It cures urinary disorders
- It enhances and improves blood circulation
- It helps in body detoxification
- It aids in weight loss
- It keeps dental problems at bay
- It helps in insomnia
- It reduces risk of cardiovascular diseases

J. JAGGERY

- It controls blood pressure
- It is great source of energy
- It is helpful in weight loss
- It controls blood pressure
- It detoxes the liver
- It relieves menstrual pain
- It prevents anaemia
- It prevents respiratory problems

Experimental work and Observations of the experimental work

A. PHYSICAL ANALYSIS:-

- COLOR- Brownish
- ODOUR- Like Cardamom
- TASTE- Sweet
- TEXTURE- Little oily and grainy

B. CHEMICAL ANALYSIS:-

Test for Proteins

Sr.No.	TESTS	PROCEDURE	OBSERVATION
1.	Biuret Test	2ml filtrate+1 drops of 2% copper sulphate solution+1ml of 95%ethanol+KOH pellets	A pink-violet coloured solution
2.	Millon's Test	2ml filtrate+ few drops of Millon's reagent	A white precipitate
3.	Ninhydrin Test	2ml filtrate+ 2drops of Ninhydrin solution	A purple-coloured solution
4.	Xanthoproteic Test	Plant extract+ Few drops of conc. Nitric acid	A yellow-coloured solution

Conclusion:

The conclusion of a nutraceuticals bar summarizes its benefits, such as providing essential nutrients, promoting health and wellness. The main aim is to work on male and female health maintenance and diseases. we have formulated bar enriched with seeds and their Targeted nutrients and bioactive compounds known to support disease management and over health

References: -

1. Kalra EK. Nutraceutical – Definition and introduction. AAPS Pharm Sci. 2003;5: E25. [PMC free article] [PubMed] [Google Scholar].
2. Das L, Bhaumik E, Raychaudhuri U and Chakraborty R. Role of nutraceuticals in human health. Journal of Food Science and Technology. 2012; 49(2):173–183 Find on [PubMed] [Google Scholar].
3. Ekpenyong CE, Davis KJ, Akpan UP, Daniel NE. Academic stress and menstrual disorders among female undergraduates in Uyo, South Eastern Nigeria-the need for health education. Nigerian journal of physiological science: Official publication of the Physiological Society of Nigeria. 2011;26(2):193-198.
4. Rubilar, M., Gutiérrez, C., Verdugo, M., Shene, C., & Sineiro, J. (2010). Flaxseed as a source of functional ingredients. Journal of Soil Science and Plant Nutrition, 10(3), 373–377.
5. Batool M, Ranjha MMAN, Roobab U, Manzoor MF, Farooq U, Nadeem HR, Nadeem M, Kanwal R, AbdElgawad H, Al Jaouni SK, Selim S, Ibrahim SA. Nutritional Value, Phytochemical Potential, and Therapeutic Benefits of Pumpkin (*Cucurbita* sp.). Plants (Basel). 2022 May 24;11(11):1394. doi: 10.3390/plants11111394. PMID: 35684166; PMCID: PMC9182978.
6. Wei P, Zhao F, Wang Z, Wang Q, Chai X, Hou G, Meng Q. Sesame (*Sesamum indicum* L.): A Comprehensive Review of Nutritional Value, Phytochemical Composition, Health Benefits, Development of Food, and Industrial Applications. Nutrients. 2022 Sep 30;14(19):4079. doi: 10.3390/nu14194079. PMID: 36235731; PMCID: PMC9573514.
7. Holliday R, Phillips K. Health benefits of the sunflower kernel. Cereal Foods World. 2001; 46: 205-208.
8. Knez Hrnčič M, Ivanovski M, Cör D, Knez Ž. Chia Seeds (*Salvia hispanica* L.): An Overview-Phytochemical Profile, Isolation Methods, and Application. Molecules. 2019 Dec 18;25(1):11. doi: 10.3390/molecules25010011. PMID: 31861466; PMCID: PMC6994964.
9. Logaraj, T. V. (2011), Chapter 136. Watermelon (*Citrullus lanatus* (Thunb.) Matsumura and Nakai) seed oils and their use in health. In Nuts and seeds in health and disease prevention (pp. 1149–1157).
10. Chopra, R.N., Nayar, S.L., Chopra, I.C., Eds.; Glossary of Indian Medicinal Plants. Council of Scientific and Industrial Research: New Delhi, 1986.
11. Rajasekaran A, Sivagnanam G, Xavier R. Nutraceuticals as therapeutic agents: A Review. Research J. Pharm. and Tech. 1(4); 2008: 328-340.
12. Sarin R, Sharma M, Singh R, Kumar S. Nutraceuticals; Review, International Research Journal Pharmacy, 3 (4); 2012: 95-99.
13. Palthur MP, Palthur SS, Suresh KC. Nutraceuticals: concept and regulatory scenario, International Journal of Pharmacy and Pharmaceutical Science 2(2); 2010: 14-20
14. Costa JP. A current look at nutraceuticals—key concepts and future prospects. Trends in Food Science & Technology. 2017; 62:68
15. Das L, Bhaumik E, Raychaudhuri U and Chakraborty R. Role of nutraceuticals in human health. Journal of Food Science and Technology. 2012; 49(2):173–183
16. Das L, Bhaumik E, Raychaudhuri U and Chakraborty R. Role of nutraceuticals in human health. Journal of Food Science and Technology. 2012; 49(2):173–183
17. Lestari Beni, Meiyanto Edy. A Review: The Emerging Nutraceutical Potential of Pumpkin Seeds. Indonesian Journal of Cancer Chemoprevention. 2018;9(2):92. 10.14499/indonesianjcanchemoprev9iss2pp92-101.
18. Karki G. Menstrual Pattern and Disorders Among Female Students of Kathmandu Medical Colle. International Journal of Public Health. 2017;6(12):222-231
19. Smith KD, Rodriguez-Rigau LJ, Tcholakian RK, Steinberger E. The relation between plasma testosterone levels and the lengths of phases of the menstrual cycle. Fertil Sterile. 1979;32(4):403-407.
20. Chauhan B, Kumar G, Kalam N, Ansari SH. Current concepts and prospects of herbal nutraceutical: A review. J Adv Pharm Technol Res. 2013; 4:4–8. [PMC free article] [PubMed] [Google Scholar]
21. Hardy G. Nutraceuticals and functional foods: Introduction and meaning. Nutrition. 2000; 16:688–9. [PubMed] [Google Scholar]

22. Khedkar, R. Traditional Food Adjuncts: Sustainable and Healthy Option for Functional Foods. In *Bioactive Components: A Sustainable System for Good Health and Well-Being*; Springer Nature Singapore: Singapore, 2022 pp. 503–515. DOI: 10.1007/978-981-19-2366-1_29.
23. Harwood, W.S.; Drake, M. Understanding implicit and explicit consumer desires for protein bars, powders, and beverages. *J. Sens.* 2019, 34, 12493. [Google Scholar] [CrossRef]
24. Parn, O.J.; Bhat, R.; Yeoh, T.K.; Al-Hassan, A.A. Development of novel fruit bars by utilizing date paste. *Food Biosci.* 2015, 9, 20–27. [Google Scholar] [CrossRef]
25. Ghosh, N.; Singha, S.; Ghosh, M. Formulation and Characterization of Chia (*Salvia hispanica*) Seed Spread with Incorporation of Sesame (*Sesamum indicum*) Seed, Watermelon (*Citrullus lanatus*) Seed, and Pumpkin (*Cucurbita pepo*) Seed. *Appl. Biochem. Biotechnol.* 2021, 193(6), 1898–1908. DOI: 10.1007/s12010-021-03499-8.
26. Małecki, J.; Tomasevic, I.; Djekic, I.; Sołowiej, B. G. The Effect of Protein Source on the Physicochemical, Nutritional Properties and Microstructure of High-Protein Bars Intended for Physically Active People. *Foods.* 2020, 9(10), 1467. DOI: 10.3390/foods9101467.
27. Losso JN. Targeting excessive angiogenesis with functional foods and nutraceuticals. *Trends Food Sci Technol.* 2003; 14:455–68. [Google Scholar]
28. Zeisel SH. Regulation of “nutraceuticals” Science. 1999; 285:1853–5. [PubMed] [Google Scholar] American Nutraceutical Association, 2009.
29. Patil CS. Current trends and future prospective of nutraceuticals in health promotion, *BIOINFO Pharmaceutical Biotechnology* 1 (1); 2011: 01-07.
30. Bultosa,G. in Reference Module in Food Science. *Medical News Today*, 26 September 2017

