

# Nutritional Aspects and Health Drink Consumption of India

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**Abstract:** Due to the pandemic situation, there has been an increase in the need for health and immunity to recover from diseases such as COVID-19. Chickpea husk, rice bran, rice bran (broken rice) by-products are processed using different cooking methods. soaking, boiling, cooking and natural air drying. Promote health and wellness. Although the detox industry is growing, there is little clinical evidence to support the use of these foods, what they involve, whether they are effective and whether they present any dangers. Although the detox industry is booming, there is very little clinical evidence to support the use of these diets. Some clinical studies show that commercial detox diets can improve liver detoxification and remove POPs from the body; however, these studies are affected by methodological flaws and small samples. The general acceptance of these non-standard conditions determined by sensory tests during the storage period is satisfactory. without compromising the quality and improving the quality of food products for consumers. According to the estimate data it can be concluded that the selected byproduct can be utilized as significant plant-based source to formulate value-added functional product without affecting its sensory quality and to enhance nutritional status of consumers.

**Keywords:** nutrition, health drink consumption.

## 1. Introduction

The sudden impact of the COVID-19 pandemic made everyone aware of the importance of good protection for health. Nowadays, people rely on the concept of herbal products due to their benefits to maintain a healthy and busy lifestyle [1]. Nutritious foods are becoming increasingly important to consumers, so food experts are doing their best to incorporate plant-based products into products that meet these needs. Tea and coffee are considered the most common beverages. Caffeine is a psychoactive substance that affects the brain or brain, it can have a positive effect on many cognitive functions, regardless of consumption, 100 mg of caffeine per day can have negative effects on the body especially the effect of the immune system. Beverages [4] Consumers are also interested in the benefits of decaffeinated beverages. Legumes are used in the production of non-dairy beverages. Beverages and supplements derived from grains and legumes are popular with consumers due to their high quality and caffeine-free properties. Detox or cleansing foods are a new trend in dieting. It oxidized. Some of these herbs promise weight loss in a short time. Although all of them are short time diet and they don't contain processed foods coffee sweetness and salt the composition of the diets and the

ways to prepare to food varies [6] Some allow only water, some allow sprouts, some limit protein-rich foods like meat or dairy, and some offer protein shakes. Standard methods [7]. Evaluation of the effects of maple syrup on weight loss, body fat, and insulin resistance during a one-week detox diet [8]. At the end of weight loss, a decrease in insulin resistance and body fat was observed without changes in other hematological parameters. In individual recipients, this diet has not been shown to have a positive effect on the elimination of toxins such as BPA or on weight loss [9].

### A. Health Benefits of Cereals-Based Product

From a nutritional perspective, grains face many challenges, particularly the economy of starch in cooking, the limited cost and bioavailability of protein due to its amino acid profile and low mineral content such as phytic acid and other antioxidants. It has been essentially reduced to 5-15%. The protein quality of rice is better than wheat and corn, but it is second only to oats. Additionally, wheat protein is hypoallergenic and contains plenty of lysine [11]. Therefore, while it adds variety to restricting food intake in children with food allergies, it can also be a useful product in baby food formula. The amino acid composition of rice protein is better than casein and soy protein isolate in meeting the amino acid requirements of children aged 2 to 5 years [13]. Free phenolic acids and esterified phenolic acids found in most grains may have beneficial effects on health [14]. Antioxidants in rice are generally concentrated in the bran layer, and the amount of antioxidants depends on the type of grain; It is generally found more in red rice than in white rice [15].

## 2. Material and methodology

The product was innovated being a research study that included as a section of program 2022, M.sc (food science and technology) in Babasaheb Bhim Rao Ambedkar. University of Research and Studies, Lucknow. The health drink is formulated by using rice bran, wheat bran chickpea husk, orange peel, broken rice powder, jaggery clove, powder cardamom powder. The analysis of health drinks for proximate principles like carbohydrate, protein, energy. Also, analysis of minerals like sodium and potassium was performed by using standard laboratory method. The effect of health drink on endurance events of the athletes were studied.

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Table 1  
Composition of standard and variants of health drink

Ingredients	T0(g)(Control)	T1(g)	T2(g)	T3(g)	T4(g)
Rice bran	75g	65g	50g	50g	65g
Wheat bran	30g	25g	25g	25g	30g
Broken rice	25 g	30g	30g	30g	20g
Chickpea husk	15g	20g	20g	20g	15g
Orange peel	10g	10g	20g	20g	10g
Jaggery	25g	15g	25g	25g	30g
Clove powder	5g	10g	15g	15g	10g
Cardamom powder	10g	10g	10g	10g	10g
Fennel seed	5g	10g	5g	5g	10g

In all 4 variations of health drink were made. The composition is given in the table 1.

#### A. Experimental Design

As mentioned before, milling by product of rice and wheat products is more popular in the food industry than chickpea husk, The current study focused more on the chickpea husk.

Therefore, for both the formulation for e.g., HDP and DTS, combination without having chickpea husk is considered as 'CONTROL' In case of HDP does not contain any chickpea husk ad same pattern was followed to selects control (DTS0) in DTS formulation.

#### B. Formulation of HDP

Dry ingredients are mixed according to percentage. While stirring the mixture, add more jaggery and fry on fire until the jaggery mixes well. Grind the mixture into a fine powder using a sieve. Also add cardamom powder, clove powder, fennel seed powder to the mixture as required. Sift the resulting mixture and store in an airtight container for later use.

#### C. Formulation of DTS

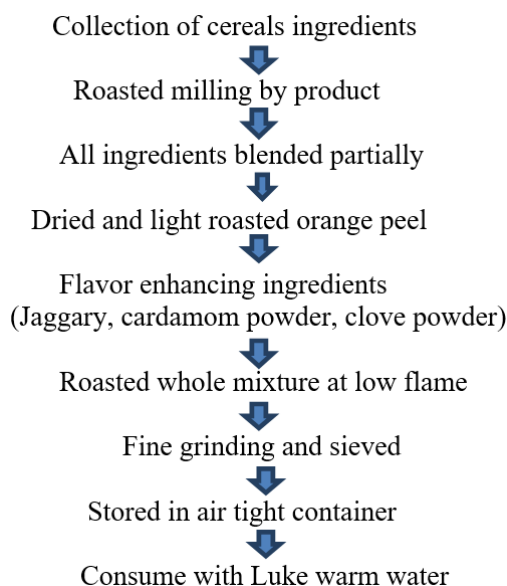


Fig. 1. Formulation procedure of HDP

The mixture is first roasted for a while on low heat and then mixed halfway in the meat grinder. Partial mixing breaks down the material and produces a texture similar to dry leaves. Roast dried orange with jaggery in a separate bowl and grind on low speed. Then the orange peel part of the jaggery mixture is mixed with some of the by-product mixture, stirred well and roasted

slowly for 1-2 minutes. Fill the mixture into small bags and keep it to use as a water supplement when using hot water.

### 3. Sensory and Organoleptic Evaluation of Prepared Detox Health Drink

#### A. Selection of Sensory Panel

The health drink was prepared in the food laboratory of the Department of Food science and technology Baba Saheb Bhim Rao Ambedkar University, Lucknow. In the current study, four organoleptic properties considered for sensory analysis were taste, fragrances, color and flavor young candidates of all age group 17-21 year participated in the research process. The sensory analysis was based on a 5-point hedonic scales, excellent being 1st point and poor being the point. The preferences specified by each candidate for various organoleptic properties of different drinks were present in the picture form.

#### B. Statistical Analysis

The data obtained were subjected to analysis of variance for a completely random design using MS Office Excel (2022). All experiment were evaluated in triplicate .The data were presented as means standard error. Assessment of the statistical significance was carried out by using analysis of variance (ANOVA) followed by Tukey HSD test where difference between means were taken as statistically significant if <0.05.

### 4. Result and Discussion

The appearance, color, texture, flavor and overall acceptance of cereals bran and legume husk based product were determined using a 9-point hedonic scale by ten panel member at the central university of Baba Saheb Bhim Rao Ambedkar University ,where one point indicate lowest acceptance and nine point is for highest acceptance of product .Product information were given to them before the evaluation .They were told to rinse out their mouth with water in between sample to minimize any residual effect.

Table 2

S.No.	Parameters	Rating
1.	Appearance/color	9
2.	Taste/flavor	7.5
3.	Smell/odor	8.5
4.	Texture/mouth feel	7.8

#### A. Sensory Evaluation of Prepared Product

Full acceptance of HDP. Later addition of powder substitute showed a significant difference between treatments (P<0.05).

Powder replacement made a significant difference in color ( $p < 0.05$ ), but other properties improved up to DTS2. sensory quality that is  $8.03 \pm 0.05$  in case of DTS4. It might bitter taste of orange peel, as higher percentage of the peel may abolish the taste and flavor. A Sensory evaluation of the formulated food product was conducted among panelist because the major aim of the current study was to develop a product that would be acceptable in the market and can be used as a supplement of health beneficial nutrients to minimize the occurrence of malnutrition .From the obtained data, It appears that the use of products from food production can break the stigma associated with the use of agricultural products and easily attract consumers worldwide to accept the products. According to sensory analysis, the most popular samples are stored and further analyzed to check the shelf life of detox health products.

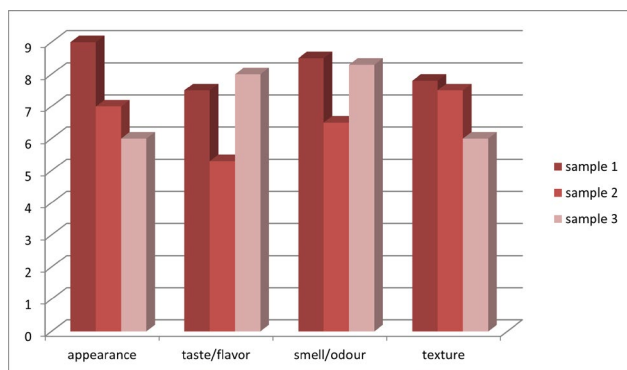


Fig. 2.

### B. Detailed Study of the Nutritional Attributes of the Formulated Products

Nutrients composition of the preferred composition was done. HDP and DTS were subjected for the determination of proximate composition, minerals content, macro nutrients antioxidants and shelf-life evaluation.

## 5. Conclusion

This paper presented a study on the nutritional aspects and

health drink consumption of India.

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