

Realization of Meal Replacement Powder Based on Low Gi Food

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Abstract: The ordinary meal replacement powders on the market have a relatively wide audience, and there is no specific group of people. The supplementary substances and nutrition have no specific effect; while the more expensive meal replacement powders have targeted functions, the price is not for most people. The problem, especially for ordinary working parties who are in need, is a lot of money. Based on low-GI foods, a meal replacement powder has been realized by adjusting and balancing body nutrition, improving hair loss, “overwork and obesity” and other work-related problems. By collecting common meal replacement foods on the market, researching their nutritional formula ingredients, and comparing their advantages and disadvantages, we provide ideas and innovative references for this research and development.

1. Introduction

Office workers in the middle of the society, under the long-term high-pressure work environment and the “996” work model, have irregular diets, work schedules, and nutritional imbalances. Because of lack of sleep and overwork, the phenomenon of absenteeism spreads in the work party. At the same time, because of the needs of business and entertainment, too much alcohol and meat are consumed, many working parties suffer from obesity at a young age. The meal replacement powder we developed this time is to enable busy office workers to use a cup of meal replacement food to solve the “satisfaction” problem when they have no time to eat. At the same time, the ingredients in the meal replacement powder can be reasonably matched to make it effective Nutrition+improvement, adjust the “premature baldness” and obesity problems.

2. Product Ideas

By adjusting and balancing body nutrition, it can improve hair loss, “overwork” and other work-related diseases. By collecting common meal replacement foods on the market, studying their nutritional formula ingredients, and comparing their advantages and disadvantages, we provide ideas and innovative references for this research and development. At the same time, we strive to select the ingredients that can make consumers choose this product with the characteristics of low price, high value and excellent taste. For office workers with hair loss problems, the main type of hair loss is seborrheic alopecia. Seborrheic alopecia: heredity is the main cause, and other acquired unhealthy life, work and study stress, stress, lack of sleep and other bad habits will aggravate hair

loss. For this problem, our solution is to adjust the nutritional content of the body and balance the body's nutrition from the diet. The phenomenon of "baldness" is more difficult to treat, and it cannot be improved overnight. Slowly adjust in your diet, select ingredients for hair and hair care, and appropriately supplement such people with vitamin B6, B2, etc. , which are beneficial to alleviate hair loss. substance.

To address the health problems caused by the unbalanced diet of the working party. For example, long-term socializing outside, excessive intake of wine and meat leads to high cholesterol and fat in the body, and the body is in a sub-health state for a long time; some people often use fried food to improve their mood and relieve high work pressure, but rarely because of busyness. Having time for physical exercise leads to lower daily energy consumption, low metabolism and fat accumulation. Not only that, a large amount of saturated fatty acids produce waste after metabolism, clogging hair follicles, and also causing hair loss. Our research and development thinking for this problem is to continue the original intention of the meal replacement powder, maintain the body, and lose weight and fat. In the production of meal replacement powder, raw materials with low calorie content and low cholesterol content (such as food with low GI value) are selected to achieve the effect of controlling high calorie intake.

3. Comparison of Similar Products

We have classified and compared four kinds of meal replacement powders that are common on the market and related to our pre-selected materials, hoping to analyze the advantages and disadvantages of existing products.

Ordinary meal replacement powders on the market have a relatively wide audience, and there is no specific group of people. The supplementary substances and nutrition have no specific effect; while the more expensive meal replacement powders have targeted functions, the price is a problem for most people. Especially for ordinary working parties who have more needs, it is a lot of expense.

However, some of the nutrients in the meal replacement powders listed above can serve as references for our research and development ideas. For example, soy milk powder made of chickpea powder and milk powder, because of its easy absorption and digestion, it has become a good nutritional food choice for babies and the elderly; the vitamin combination supplements various scarce vitamins needed by the human body and improves hair loss; more green tea Phenol promotes fat metabolism and reduces fat absorption. Our R&D team innovates on traditional ingredients, trying to find the best ingredients from low-calorie, high nutritional value cereals.

4. R&d Principle

"GI" is the abbreviation of Glycemic Index, which is the "glycemic index". Simply put, the easier the food that makes blood sugar rise quickly, the higher its GI value; on the contrary, the lower its GI value. When we eat foods with low GI value, the rate of blood sugar rise will slow down, which can also reduce the formation and accumulation of fat.

By consulting the diet table, we know that the foods with low GI are mainly: whole grains, beans, milk, potatoes (raw or cold processed), fruits with more acid (apples, cherries, kiwi, etc.), Whole wheat or high-fiber foods, mixed diet foods (dumplings, chaos, etc.), and fructose.

GI > 70 is high GI food, not suitable for people with abnormal blood glucose metabolism; $55 \leq \text{GI} \leq 70$ is medium GI food, and people with abnormal blood glucose metabolism can eat moderately; GI < 55 is low GI food, recommended for people with abnormal blood glucose metabolism Can be eaten in moderation^[1].

From the perspective of satiety, low cholesterol and fat intake, we have chosen the main ingredient Naked Oats. Naked oats are nutrient-rich food crops, with the highest protein content in cereal crops, and contain 8 essential amino acids, and their composition is relatively balanced. 1. High protein and low sugar, it is an excellent choice of food for patients with three highs. 2. It is rich in vitamins B1, B2, E, folic acid, etc. , which can supplement the vitamins needed by the human body. 3. Contains calcium, phosphorus, iron, zinc, manganese and other minerals, which can supplement human trace elements.

Black sesame seeds, mulberries, black beans and other traditional hair and hair care foods can nourish the liver and kidneys, nourish the internal organs, and nourish blood. It can improve hair loss caused by insufficient liver and kidney and kidney qi deficiency.

5. Product Formula Ingredient List

Naked oats are rich in a variety of nutrients such as protein, phospholipids, unsaturated fatty acids and minerals. The protein content is as high as 15.6%, ranking first among cereals, and the amino acid ratio is in line with the nutritional ratio model recommended by the WHO. Dietary fiber can promote gastrointestinal peristalsis to assist the absorption of food. At the same time, rich in zinc, iron, and vitamin B are also beneficial to the health of hair. Naked oats are the main materials and features of our products, so we chose a larger proportion in the ratio;and naked oats have a full stomach effect, which is also the original intention of the meal replacement powder research. We maximize the effects of naked oats, which can nourish hair, fill your stomach, and nourish your stomach^[2].

Black sesame nourishes the liver and kidneys, nourishes the internal organs, nourishes blood, and treats hair loss caused by liver and kidney deficiency and kidney qi deficiency. Black sesame seeds are our important hair nourishing and hair care ingredients. We relieve hair loss by invigorating the liver and kidney. However, excessive consumption of black sesame seeds will cause greasy hair, which is not conducive to alleviating hair loss, so after careful consideration, we decided to choose 3g.

Papaya is rich in vitamin C, iron, potassium, calcium, carotene, lutein, etc. , which can provide a variety of nutrients for hair. Fruits, vitamin supplements, and seasonings are relatively small.

The protein in skimmed milk powder is mainly casein, albumin, globulin, milk protein, etc. Among the more than 20 amino acids contained in it, there are 8 essential amino acids for the human body. Milk protein is a full-priced protein, and its digestibility is as high as 98%. Skimmed milk powder is an "ideal food for weight-loss women to ensure nutrition and effectively control fat intake. We compared soy protein and skimmed milk powder in the comparison selection. At first, soy protein was our ideal raw material, but after review, we got Knowing that under a 100°environment, the structure of soy protein will be destroyed and nutrients will be lost. However, in the preparation of meal replacement powder, we need to use hot water. After weighing, we chose skimmed milk powder^[3].

At the same time, this product also selected apples, green tea powder, chickpeas, black beans, crystalline fructose

This meal replacement powder is not suitable for people who suffer from chronic enteritis, diarrhea and those who are allergic to protein. :A small packet of meal replacement powder is 30g, and it is better to eat 100ml with boiling water at about 60 degrees Celsius.

6. Summary

The new generation meal powder of "Naked" is mainly made of naked oats, rich in various nutrients, high in protein and low in sugar, and is an excellent food for people who lose weight. In

addition, it is rich in vitamins, balances basic human nutrition, and to a certain extent can improve hair loss caused by nutritional imbalance. At the same time, it also contains black beans, chickpeas, mulberries and other ingredients that help to nourish hair, which can protect the hair to a certain extent.

References

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