

# Adaptation of DASH diet (Dietary Approach to Stop Hypertension) for postpartum nutritional care at primary healthcare

*Adaptação da dieta DASH (Dietary Approaches to Stop Hypertension) para cuidado nutricional no período pós-parto, no âmbito da Atenção Básica*

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**ABSTRACT:** *Introduction:* Postpartum weight retention has been found to predict obesity. However, in Brazil, there's no national strategy for nutritional care of postpartum woman. *Objective:* This study aimed to adapt DASH diet (Dietary Approaches to Stop Hypertension) for nutritional counseling of postpartum woman, at primary healthcare. *Method:* Methodological study, carried out in 2016, at low-income urban neighborhood in the city of Rio de Janeiro. It was developed in four steps: translation, food and food groups adaptation, identification of geographic and economic access to food and viability evaluation. *Results:* The food groups of original diet were structured to Brazilian dietary pattern. After viability analysis, it was observed that the geographical access of food should be accounted to enable greater adherence. A qualitative and illustrated meal plan was elaborated for nutritional counseling. *Conclusion:* The adapted DASH diet for nutritional care of postpartum woman seems to be according to the Brazilian dietary pattern, maintaining nutritional characteristics that provide the health benefits previously demonstrated. Currently, it's being used in interventional study in two primary healthcare unities at the city of Rio de Janeiro.

**Keywords:** Postpartum period. Diet, Food, and Nutrition. Maternal nutrition. Women's health.

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**RESUMO:** *Introdução:* A retenção de peso pós-parto é fator preditor para desenvolvimento de obesidade. Entretanto, não existe um protocolo para o cuidado nutricional de mulheres no período pós-parto, no Brasil. *Objetivo:* Este estudo teve por objetivo adaptar a dieta *Dietary Approaches to Stop Hypertension* (DASH) para orientação nutricional de mulheres no período pós-parto, no âmbito da Atenção Básica. *Método:* Estudo metodológico, desenvolvido em 2016, em uma comunidade do Rio de Janeiro. Foi constituído de quatro etapas: tradução, adaptação dos alimentos e grupos alimentares, identificação de acessibilidade geográfica e financeira e avaliação da viabilidade. *Resultados:* Os grupos de alimentos da dieta original foram estruturados para o padrão brasileiro de consumo. Após avaliação da viabilidade da proposta, observou-se que a orientação deve ser direcionada de forma compatível com a realidade local, para que seja possibilitada maior adesão. Para orientação nutricional, foi elaborado um plano alimentar qualitativo e ilustrado. *Conclusão:* A adaptação da dieta DASH para cuidado nutricional de mulheres no período pós-parto parece estar de acordo com o padrão alimentar brasileiro, mantendo as características nutricionais que lhe imputam os benefícios à saúde previamente estudados. Atualmente, está sendo utilizada em estudo de intervenção realizado em dois Serviços de Atenção Básica do município do Rio de Janeiro.

*Palavras-chave:* Período pós-parto. Alimentos, dieta e nutrição. Nutrição materna. Saúde da mulher.

## INTRODUCTION

Postpartum weight retention is a predictive factor for the development of obesity; therefore, it is recommended that returning to pre-gestational weight should occur within the first year after delivery<sup>1,2</sup>. However, there is no protocol for nutritional care in primary health-care, in Brazil, regarding the puerperium.

The Dietary Approaches to Stop Hypertension (DASH) diet was originally proposed for the prevention and treatment of systemic arterial hypertension<sup>3</sup> and is currently recommended as a healthy dietary standard by several national<sup>4,6</sup> and international<sup>7,8</sup> technical-scientific organizations, due to its benefits related to nutritional status and metabolic aspects.

The DASH diet is rich in fruits, vegetables, whole grains and low-fat dairy products, prioritizes consumption of white meats, includes seeds and oilseeds, and limits the consumption of sugar and sweets. The benefits of this diet are attributable to its macro/micronutrient composition, by providing increased amounts of calcium, potassium, magnesium, fiber and unsaturated fatty acids and limited sodium, cholesterol and saturated fatty acids<sup>9</sup>.

In view of current recommendations<sup>4-8</sup>, this dietary pattern seems promising for reducing postpartum weight retention and improving overall health conditions for women. However, adapting the original diet, in order to make it feasible for Brazilians to join it, is considered necessary.

This study aimed to adapt the DASH diet for nutritional orientation of postpartum women, in the context of primary healthcare, in a community in the city of Rio de Janeiro.

It was methodological, developed in 2016, based on the work of Whitt-Glover and others<sup>10</sup>, consisting of four stages, described below.

The research was approved by the Research Ethics Committee of *Escola Nacional de Saúde Pública Sérgio Arouca* (CEP/ENSP), under opinion No. 238/10, Certificate of Presentation for Ethical Assessment (*Certificado de Apresentação para Apreciação Ética – CAAE*) 0251.0.031.031-10, and registered in the ReBEC under opinion RBR-4t46ry.

## **METHOD**

### **TRANSLATION**

The translation process was carried out by the team of researchers, from the publications of the Dash Collaborative Research Group. The version of DASH diet chosen for adaptation was the one proposed by Windhauser et al.<sup>11</sup>, since it also presented strategies for application in clinical practice.

### **ADAPTING FOOD AND FOOD GROUPS**

The foods most consumed by the Brazilian population<sup>12</sup>, which contemplate the nutritional recommendations of the DASH diet, were considered<sup>13</sup>. The food groups were reviewed and discussed among the researchers, considering the proposal of the Food Guide for the Brazilian Population<sup>14</sup>. The nutritional composition of the foods in the original DASH diet and the items identified as more present in the Brazilian menu were compared.

### **IDENTIFICATION OF GEOGRAPHICAL AND FINANCIAL ACCESSIBILITY**

The main supermarkets in the region were identified, as well as the small local trades and free markets, where the prices of various foods were surveyed<sup>15</sup>. Due to problems of violence in the territory in question, most of this survey was carried out using internet resources such as Google Maps®, Google Street View® and supermarket sites located in the perimeter of the community.

### **FEASIBILITY ASSESSMENT**

Educational actions to verify the feasibility of adherence to the DASH dietary pattern were carried out with puerperas at two Primary Care Services in the city of Rio de Janeiro, randomly invited in a waiting room or participants in a group of child care units.

A tasting of foods provided in the adapted DASH diet was offered and the prices practiced in the region were informed. A preview of the educational materials elaborated on the basis of the adapted DASH diet was also presented. Women were invited to answer eight questions on palatability (3), financial (2) and geographical accessibility (1) and understanding of educational materials (2). The Likert Scale was used for the answers, with the options “yes”, “no” and “maybe”. The “yes” answers were considered as approval for the items in question.

The educational actions had participation of 17 puerperas. The approval for palatability, financial and geographical accessibility and comprehension of educational materials was 90, 94, 59 and 100%, respectively.

Due to the result of the criterion “geographical accessibility”, the need for individual evaluation of this item to guide the nutritional orientation should be noted<sup>10,11,15</sup>.

## RESULTS

After performing the four steps, the adapted DASH diet was structured as shown in Chart 1.

The group “Oilseeds, seeds, beans and peas” was dismembered in “Leguminosae” and “Oilseeds and seeds”, considering that beans is the third most consumed food by Brazilians<sup>16</sup>, becoming the main source of the nutrients of this group. “Oilseeds and seeds” have a higher cost, but seeds such as flaxseed and sunflower are found in local commerce with lower costs in relation to oilseeds.

The “Sweets” group was excluded from the adaptation, considering that sugar intake should be avoided and limited to less than 5% of total energy consumption<sup>17</sup> and that the consumption of sugary and sweet drinks is excessive in the Brazilian population<sup>16</sup>. Consumption is present, however, but not as part of the nutritional orientation<sup>14</sup>.

In relation to the “Meat” group, orientation included eggs, viscera and pork, since they present greater supply offer and lower cost in the markets of the region.

Whole grain bread and rice usually have higher prices. Therefore, roots, tubers and oats are good options, equivalents of the group “Cereals, grains, roots and tubers”.

For individual nutritional guidance, a qualitative and illustrated food plan was elaborated, with six daily meals, without personalized dietary calculation, in line with the proposal of the new Food Guide for the Brazilian Population<sup>15</sup>.

## CONCLUSION

The adaptation of the DASH diet to nutritional care in the postpartum period seems to be in accordance with the Brazilian food pattern, maintaining the nutritional characteristics that impute the previously studied health benefits. Currently, it is being used in an intervention study conducted in two Primary Care Services in the city of Rio de Janeiro.

Chart 1. Translated and adapted Dietary Approaches to Stop Hypertension (DASH) diet, based on a food plan of 2,000 kcal.

Translated DASH diet		Adapted DASH diet			
Food group	Servings	Food group	Servings	Nutritional characteristics	Foods
Grains (cereals) and their products	7 or 8/day	Cereals, grains, roots and tubers	7 or 8/day	Energy and fiber	<i>Aipim</i> , potatoes, sweet potatoes, yams, rice, pasta, breads, oats, biscuits, tapioca, salted couscous. Preference for whole grains.
Vegetables	4 or 5/day	Vegetables	4 or 5/day	Potassium, magnesium and fiber	All, preferably the season ones.
Fruit	4 or 5/day	Fruit	4 or 5/day	Potassium, magnesium and fiber	All, preferably the season ones. Also includes natural fruit juices, without added sugar.
Dairy products with low or no fat content	2 or 3/day	Milk and dairy products	2 or 3/day	Calcium and protein	Milk, yogurt, white cheeses. Preference for nonfat milk and yogurt.
Meat, poultry and fish	≤ 2/day	Meat	≤ 2/day	Protein and magnesium	Fish, chicken, beef, eggs, viscera, pork.
Oilseeds, seeds, beans and peas	4 or 5/week	Leguminosae	1 or 2/day	Energy, magnesium, potassium, protein and fiber	Beans, peas, lentils, chickpeas, soybeans.
		Oilseeds and seeds	4 or 5/week		Seeds (sunflower, flaxseed, pumpkin, sesame), peanut, Brazilian nut. Cashew nuts, walnuts, almonds, hazelnuts.
Oil and fats	2 or 3/day	Oil and fats	2 or 3/day	Mono and polyunsaturated fatty acids	Margarine, olive oil, oils.
Sweets	5/week	-	-	-	-

Source: adapted from Windhauser et al.<sup>11</sup>

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