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# Nutritional Record in Diabetes Consultations

## A Tool for Assessment and Intervention

**W**ho hasn't heard the old saying, "You are what you eat"? Nowadays, we could rephrase it as "You are what you eat, how much, when, and how you eat it." It has been demonstrated that it is not only the quantity of food that matters but also the proportion of macronutrients, their distribution throughout the day, their quality, the level of processing, the order in which we consume them, and even the way we cook or cool (retrogradation process of starch) the food (1).

Since all these aspects have an effect on glucose levels, it is essential that every person with diabetes has the necessary knowledge to make informed decisions about their diet. In fact, according to the American Diabetes Association (ADA), one of the first questions people tend to ask when receiving the diagnosis is “What can I eat?” (2).

### FIRST STEPS

Before starting any intervention, it is important to establish a starting point through a comprehensive nutritional assessment. This includes anthropometric, biochemical, pharmacological, dietary habits, physical activity level, and psychosocial aspects, among others. Performing a comprehensive assessment is crucial for individualizing the approach.

### THE NUTRITIONAL RECORD

It is essential that patients become aware of their eating habits and understand the impact of food on their blood glucose. In this regard, the nutritional record is a key tool that helps both the patient and the health care professional identify specific aspects of the diet that could be improved and set change goals.

In the 3-day food record, the patient prospectively documents everything consumed over three days, including one weekend day.

Prior to this, the nutritionist or diabetes expert guides the patient on how to make an adequate record and the necessary resources: a food record sheet and a tool for food measurement (food scale, measuring spoons, or using the hand as a reference).

Using food models, portion brochures, patient-taken photographs, and apps can assist in calculating portion sizes of food consumed.

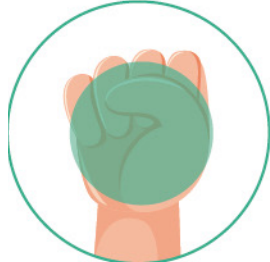




The use of the nutritional record is common in both initial and follow-up consultations, in Diabetes Units and Primary Care. In addition to the 3-day record, there are other methods, and their choice is based on available resources—such as time and staff—the patient’s characteristics and needs, and therapeutic goals. A recent publication explains the various nutritional assessment methods in the context of diabetes (3).

### THE NUTRITIONAL RECORD AS A TOOL FOR ASSESSMENT, EDUCATION, AND INTERVENTION

The nutritional record provides information to assess the patient’s diet in a detailed and personalized manner, both in terms of quality and quantity. Through the analysis of caloric intake, macronutrient distribution, food quality, meal frequency throughout the day, among others, areas »

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# PORTION GUIDE USING YOUR HAND

<b>FIST</b>	<b>THUMB</b>	<b>PALM</b>	<b>TIP OF THE FINGER</b>	<b>TIP OF THE THUMB</b>
				
<b>1 CUP</b>	<b>30 GRAMS OF MEAT OR CHEESE</b>	<b>85 GRAMS OF MEAT</b>	<b>1 TEASPOON</b>	<b>1 TABLESPOON</b>

## THE NUTRITIONAL RECORD ALLOWS FOR THE ASSESSMENT OF THE PATIENT'S DIET, AND FROM THIS INFORMATION, INTERVENTION PRIORITIES CAN BE IDENTIFIED. THIS FACILITATES THE ESTABLISHMENT OF REALISTIC AND MEASURABLE GOALS, ALWAYS IN COLLABORATION WITH THE PATIENT

» For improvement are identified and prioritized, and realistic and measurable goals are set, always in collaboration with the patient. This approach facilitates the detection of nutritional excesses or deficiencies and allows for the adjustment of the dietary plan to the individual needs of each person.

Additionally, the nutritional record offers an opportunity for tailored nutritional education. This should provide both theoretical and practical training, including at least the food groups based on their macronutrient content, with an emphasis on foods that provide carbohydrates (CH), the Healthy Eating Plate method, carbohydrate portion counting, among others (4).

In our experience with type 1 diabetes mellitus patients who begin an educational program before starting insulin pump therapy, the nutritional record is a key step in the process. At the start of the program, patients perform a 3-day nutritional record, which is later reviewed together with the nutritionist (5).

After this analysis and receiving basic nutritional training, patients learn to identify the carbohydrate foods or drinks from their own records. As they progress in the educational process, they acquire skills to count CH portions (10g of carbs) in their own records. At this stage, the patient performs a new nutritional record, this time iden- »

DATE		DAY OF THE WEEK			
<b>BREAKFAST AND MID-MORNING SNACK</b>					
TIME	WHAT I HAVE EATEN AND DRUNK	QUANTITY	PORTIONS	GLUCOSE	INSULIN
<b>LUNCH AND MID-AFTERNOON SNACK</b>					
TIME	WHAT I HAVE EATEN AND DRUNK	QUANTITY	PORTIONS	GLUCOSE	INSULIN
<b>DINNER</b>					
TIME	WHAT I HAVE EATEN AND DRUNK	QUANTITY	PORTIONS	GLUCOSE	INSULIN

» Example of a nutritional record form that integrates carbohydrate portion counting

» tifying and counting CH portions and receiving feedback.

Afterwards, new knowledge and skills are added, such as the insulin-to-carb ratio, insulin sensitivity factor, and the effect of protein/fat.

This educational approach allows patients to acquire and reinforce theoretical knowledge and practical skills for better diabetes management, enhancing their autonomy in managing both their diet and treatment.

## USE OF NEW TECHNOLOGIES

Due to the limitations of the traditional food record method, the use of photographs of foods/drinks has emerged as a strategy to improve accuracy in records. In recent years, various mobile apps have been developed that use image recognition technologies to identify the type and amount of food consumed, calculate carbs, and avoid the need for the person to weigh and record the foods (6). However, this automation has disadvantages as it relies on visual estimates that may be inaccurate, delegating the precise counting of macronutrients to technology and becoming dependent on technology.

## CHALLENGES

It is common that, when creating a food record for the first time, important details are overlooked. Aspects such as whether the food was wei-

ghed raw or cooked, whether a drink contained added sugar, or whether a food was breaded are often not recorded. Part of the learning process consists of identifying these aspects and understanding their impact on glycemic control.

Keeping a detailed nutritional record may create resistance in individuals with diabetes for various reasons, primarily due to the feeling of being watched or judged, or because of the tedious nature of noting and quantifying foods, especially when weighing them is required. Therefore, it is essential to address these barriers, explaining the purpose of this method and encouraging the active participation of the person in their dietary plan and in goal setting.

If a patient shows persistent difficulties, it is important to refer them to a nutritionist-dietitian for more individualized education, follow-up, and nutritional support. This highlights the importance of interdisciplinary teams that include the dietitian-nutritionist in the care and education of people with diabetes.

## PRACTICAL CONSIDERATIONS

It is essential that the professional assisting the person has training and experience in diabetes therapeutic education, so they can guide them in acquiring and maintaining new practices and healthy dietary decisions. **D**

## CONCLUSIONS

The food record not only allows for the assessment of diet quality but also serves as a tool for therapeutic education in diabetes. Through this process, patients learn to recognize carbohydrates and other macronutrients in the foods they consume, which can lead to improved self-management of their diet.

Furthermore, the combination of food education and tracking tools, such as the nutritional record, facilitates comprehensive diabetes management, empowering the patient and improving the quality of care.

Finally, nutritional education is an essential element in the comprehensive treatment of diabetes, both short and long-term, and all people with diabetes should have access to this resource.

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